Life In Harmony

The Sandman

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Introduction

"We do not need as much as we might think to be happy. If we rethink things in our lives like clothes, transportation, food, and housing, we might find ourselves removing some of our old ideas about what is necessary. In fact, we need far less to live than our culture tries to make us believe."

The Sandman

For much of my life, I have asked the question - what does a person really need for a good quality of life? One of the first things that readily comes to mind is - good health. Of course good health requires clean air, food, and water. But beyond the obvious basics, I ask what else is needed? For example, does a person really need shelter?

For me, the answer is yes. To have good health and a good quality of life, I must have shelter. I may not need shelter to live, but for me, I need shelter to have a high quality of life. Then the question becomes what kind of shelter and how much does it have to cost? Is a simple tarp or inexpensive tent adequate shelter? And what else is needed beyond shelter?

I hope to share how I have answered these questions for myself with this book, which led me to a path of using sandbags.

Much of what I learned about building with sandbags was from a couple of books I purchased years ago, along with being self taught, mainly through trial and

error. Today, there is a wealth of information on the internet on how to safely build structures with sandbags.

I have found sandbags to be one of the most affordable, satisfying, and user friendly methods of construction. Building with sandbags is user friendly because it is - forgiving. Mistakes can be corrected and precision is not required. The bags and dirt are inexpensive, although it does require a great expense of labor.

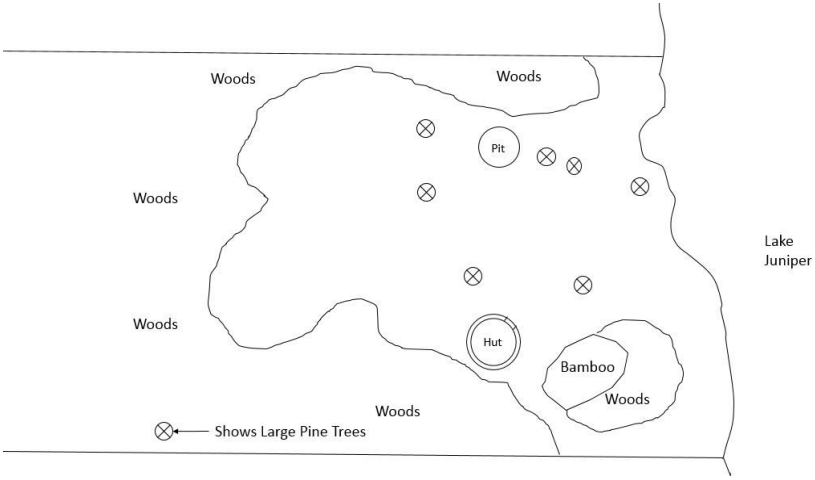
This book describes how I built my sandbag projects over the past several years. It is not a “DIY” book showing all of the steps with complete instructions. It is more of a book describing what I have done, how it has impacted my life, and hopefully show some of the possibilities available when building with sandbags.

I also share a few of the life lessons I learned along the way, including some of the ways I have adopted a simple living lifestyle. Much of my journey began when I was able to let my mind settle down and become quiet, allowing me to listen to a still small voice within. Over the years, I have learned to trust that voice and to follow its promptings, even without fully understanding where the path would lead.

I often reflect on just how much my life has changed (for the better) with my bags of sand and simple living. It really has been transforming. I am very satisfied with my sandbag creations and my lifestyle. They have enhanced my life in a simple and positive way. I think after years and years of filling nearly 4,000 sandbags, I have earned the right to call myself - the Sandman.

Chapter 1

The Hut



Located in Florida, on a gentle slope at the edge of a lake, nestled among tall pines, live oaks, and scattered magnolias is a small sandbag structure I call - the Hut.

I have spent many a peaceful night there and an untold number of daytime hours. Over the years it has become something of a … sanctuary for me - a home, away from home. Yet, it is far more than just a second home for me. For one thing, it is something - I created. I made it. I feel a deep sense of satisfaction knowing I built the Hut with my own two hands, some dirt, a shovel, and few sandbags.

Before building the Hut, I had a makeshift tipi I had made near the lake. I cut down some small, straight pine trees and using a tarp, I made the tipi to serve as a

simple shelter. It was not much to look at and if the wind was blowing hard, the rustling of the plastic tarp was a little noisy. Still, I spent many Sunday afternoons relaxing and meditating in my tipi. It was my safe place, my quiet place - a place to go and get away from the stressful demands of life.

My beautiful wife, Kathy and I raised four children (no small feat keeping them safe and healthy to adulthood). Every other Sunday afternoon we rotated an afternoon off, giving each other a break from the neverending noise and demands from raising four kids. Our Sunday afternoons became the highlight of our week and something we both looked forward to. If we could just make it til Sunday, was often our mantra. On my Sunday afternoons, I liked to go down the hill from our house into the woods, and spend time in the tipi by the edge of the lake.

It was my place to step into another world, far beyond the normal daily routines. It was a much quieter world. I enjoyed sitting in the tipi, burning incense, meditating, and playing a plastic flute (a recorder) during my afternoon downtime. Some days I would read or just sit in silence or listen to music.

With each visit I spent some time in quiet meditation. It was my way of recharging my batteries to prepare for the upcoming week. Kathy and each of our children knew, if dad was in his tipi they should - leave him alone.

I lost the tipi to a hurricane in 2004. I wanted to recreate my quiet place, but in a way that would be more

permanent and longer lasting. I wanted my happy place back without the fear of losing it again. And so, I decided to try my hand at building a dome structure out of - sandbags. I had read a little about building with sandbags and thought it might be the perfect way to replace the tipi and rebuild my - happy place.

I had read an article about Earthbag houses and felt an inner prompting to try and build a small meditation hut with dirt from our property. The more I thought about it, the stronger the urge became to find some sandbags.

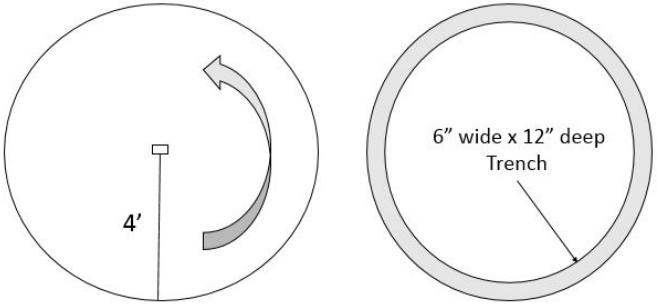
I wanted to try a small dome shaped structure with a simple arched doorway because it looked easy and stable. Since a dome is completely round, the shape would provide strength should we have another hurricane. I purchased 300 sandbags on the internet and began a simple project that would literally change my life.

I received my shipment of sandbags late in the fall of 2004. I began digging a pit about 50' away from where my tipi had been, which would be the location for the new sandbag dome. I knew I wanted to build a dome with sandbags, but I did not have any formal plans. I did not really have a vision of what it might look like, other than a couple of diagrams I had seen in a book. But that did not stop me. I began digging.

Once I dug below the topsoil, I put some of the sand/dirt in a mason jar (about half full) and filled the rest of the jar with water. I put the lid on and shook it and let it sit for a few hours. Testing the dirt this way told me I had

about 20% clay. From what I had read, a little bit of clay was a good thing.

I then drove a wooden stake in the center of the spot where the dome would be built - where my tipi had been before the hurricane. I tied a 4 foot string to the stake. Pulling the string tight I used a stick on the other end of the string and scribed a line on the ground as I walked around the stake, creating an 8 foot diameter circle (which was the same diameter of my tipi).



Then I began digging a 6 inch deep and 1 foot wide trench on the inside of the 8 foot circle for the first row of sandbags. Once that was completed I began filling sandbags up from the pit I was digging 50' away. I used white poly sandbags that were 14 inches wide and 26 inches long (when empty and laid flat) with a tie string at the top of the bag.

Using a short handled shovel I held the bag open with one hand and emptied a shovel of dirt into the open bag with the other hand. After 2 or 3 shovels there was enough dirt for the bag to stand upright on its own (except on windy days) allowing me to shovel with two hands. There are videos on the internet for making homemade jigs for filling sandbags. I saw no need for a jig because it was easy enough to hold the bag with one

hand and shovel with the other (using a short handled shovel and gripping it about 8 inches away from the spade).

After 4 or 5 shovels I grabbed the upper corners of the bag and lifted it a few inches off the ground and then let it drop, allowing the dirt to become more packed. Then I continued filling until the dirt was about 5 or 6 inches from the top of the bag (which is about 50 lbs depending on the composition of the dirt and how compact it was in the bag).

After a bag was filled, I carried it 50 feet and set it upright on the ground near the 8 foot circle, leaving the top of the bag open. Once I had 15 bags ready (the number needed to complete a full row), I tied the top of the first bag and laid it in place in the bottom of the trench I dug. This became the first row of the dome. After the first bag was in position I added the remaining bags. I folded the tops of the bags and placed the top of each bag next to the bottom of the previous bag.

The sandbags I purchased on the internet had lettering on one side, so I made sure I placed the side with the lettering on the bottom of each new row. Once all of the bags of the first row were laid, I used a metal tamper purchased at a local hardware store and began tamping the bags. Tamping tools can be made from cans filled with concrete. You can learn how by watching videos on the internet.

As the dirt in the bags was compressed from tamping, the bags transitioned from a puffy shape in the initial placement to a smooth flat shape about 5 inches thick.

As the tamper hit the bag, I could feel the solidness of the dirt through the handle of the tamper, when it was packed tight.

Once the last bag in the row was completely tamped, the row of bags formed a hard, tight circle creating a strong “compression ring”. The first row was below ground so those bags were not going anywhere, but once the higher rows were added, the compression ring gave the entire row strong horizontal tensile strength, with gravity providing vertical tensile strength.

All of the research I had done on building with sandbags suggested using barbed wire between each layer to increase horizontal tensile strength. I decided my project would be in a dome shape (causing more downward vertical forces than horizontal) and it would be so small that I opted not to use barbed wire.

After the first row was completed, I returned to the pit and began filling up more bags. The process was repeated for the next row. Fill the bags, carry them one by one to the site of the dome, tie off the first bag of the next row, place the top of each bag adjacent to the bottom of the previous bag (halfway in between the joint created by the bags below on the previous row, allowing the joints between different rows to be staggered). Then tamp each bag in the row forming another compression ring of sandbags.

For each new row laid, the direction of the bags were reversed. If the previous row was laid out clockwise with the top of each bag placed against the bottom of the previous bag, the next row was reversed. It would

be laid out counterclockwise with the the top of each bag placed against the bottom of the previous bag.

I should point out at this stage - in order to stagger the joints, formed between bags - I used half filled bags to start every other row to keep joints from being directly above the joints from the previous row (much like the way rows of bricks are laid with staggered joints). On the next row I would start the row with a full bag again.

While I was anxious to build the sandbag dome, I knew it was going to take some time. I worked a full time job and could only devote a few hours each weekend to filling sandbags. Most Saturdays, Kathy and I volunteered our time to build houses for Habitat for Humanity. Often after working on a Habitat house, I would come home and spend an hour or two filling sandbags. In an hour I could fill about 15 - 20 sandbags.

I used a long handled shovel to break up the dirt in the pit and then switched to the short handled shovel to fill the bags. I was careful to remove any organic material as the bag was filled. Carrying the bags one by one 50 feet away was a lot of work. Each bag weighed about 50 lbs and I was always careful to not over exert myself.

As the first rows were laid and tamped, I found myself looking at the rows of sandbags in a circle with a sense of pride. There was no doubt these first few rows would provide a strong foundation. It was definitely structurally different from any project I had ever done.

After the first 4 rows were laid, it was time for the doorway. I wanted the doorway to face the portion of the lake where I would be able to see the furthest distance to the other side of our corner of the lake (the other side was about 2,000 feet away). This placed the doorway facing in a northeast direction which meant a portion of the north winds, in the winter, would come into the Hut. So, I decided to keep the doorway opening as small as possible to reduce the amount of cold wind coming in during the winter.

A book I read, recommended building a wooden frame to form the doorway. After playing with a couple of wooden frames with more failures than successes, I took an old car tire and used it to form the bulk of an arched doorway. Once I had the rows of sandbags near the center of the tire, I added 3 bags of loose sand and formed a small triangle shape above the top of the tire. This small triangle of bags formed the center of the arch and would be removed along with the tire once it was complete.

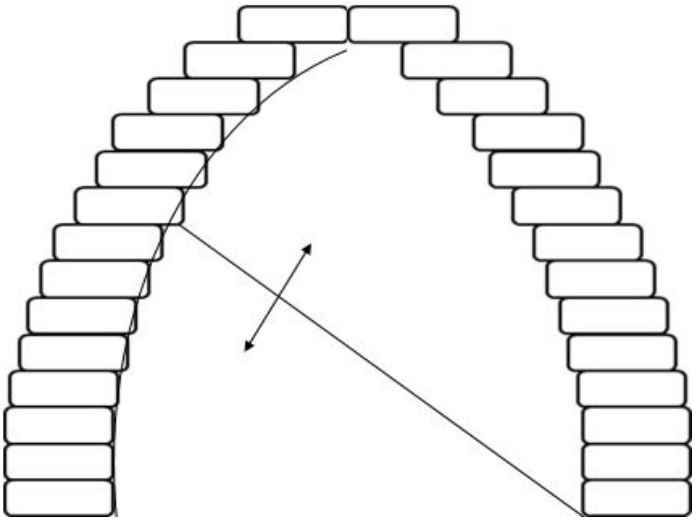
As I tamped each successive row the tire compressed a little, but still maintained its shape. By placing the three bags forming a triangle on the top of the tire, I was able to create a natural archway for the door opening.

I still recall the sudden rock hard feeling, I felt, when I was tamping the “keystone” bag (the one at the very top, middle of the doorway). I felt it lock into place. I think I could have removed the tire at that point. I elected to add a few more rows above the arched doorway to make sure it had enough vertical weight above it to maintain its shape once the tire was removed.





To make a dome each row of bags needs to be curved inward. I used a long nail with a string tied to it to measure where to place the next row. I placed the nail into the ground just on the inside of the row of bags. I pulled the other end of the string tight to the opposite side and tied a pencil to it. Lifting the pencil higher with each successive row caused the string to form an arch. I positioned the bags of each new row so the inside of the bags lined up with the pencil tied to the end of the string. As the pencil was lifted higher, the next row of bags moved more towards the center.



Using this method allowed the higher rows to be set at the correct position forming smaller and smaller circles/rows creating the inward sloping shape of the walls. I decided I wanted a little more head room and as I got closer to the top I allowed the rows to be more even with the previous row giving the top of the dome a little more vertical space.

I used 1.5 inch pvc pipes, 22 inches long for ventilation. The pipes were laid on top of a finished row of bags and then held in place when the next row of bags were laid on top. I also used a piece of 3 inch pvc pipe when the rows were at eye level. This pipe faced the direction of the path coming down the hill. This would allow me a "window" to see if anyone was coming down toward the lake when I was inside the dome.

Near the very top of the dome I placed 4 - .5 inch pieces of pvc and lined each of them up in the direction of the four compass points. The primary purpose of these pipes was for ventilation, but they would also allow me to quickly know which way north was as well as to give me something to hang things on (like wet clothes or a lantern) when inside the dome.

As the dome neared completion, it took greater and greater effort to place the bags near the top. I used a 6 gallon bucket to stand on, but still had to raise the bags well above my head. The last couple of rows I literally threw the bags up.





I remember standing on the top of the dome as it neared completion and looking down, I thought - I am basically standing on … sand and air. Near the top, the rows are indented more and more toward the center, meaning there was much more air beneath the bags of sand. It was a strange feeling to be standing on sand suspended over empty space.

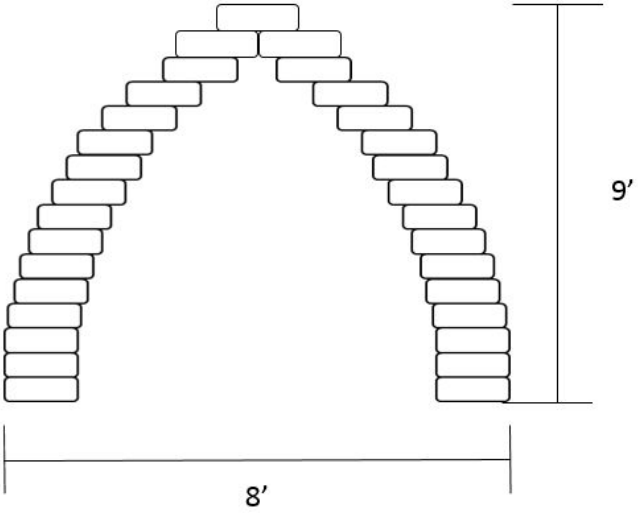


Getting in and out of the dome was a little harder than I had expected because the doorway was so small. To enter, I had to sit on the bags at the bottom of the doorway and put one leg inside and then swing the other leg inside. Ultimately I removed the center bag in the bottom of the doorway to make it easier to get in and out.

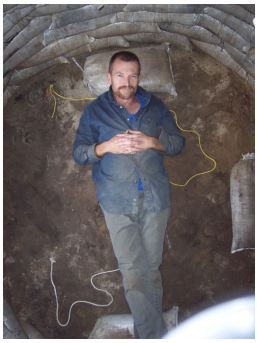




The dome was completed in January of 2005. It had taken 3 months to build and 200 sandbags. The total cost for the bags and pvc pipes was less than $75. The sandbag dome replaced the tipi as my quiet retreat away from the hustle and bustle of life.



There are a total of 22 rows of sandbags making the dome about 9 feet high. The inside diameter at the floor is six and a half feet, plenty of room for me to lay down.





I used a stack of 1 x 6 boards 14 inches long to serve as my seat. And another board was used as something like a stand to hold drinks and keep my Kindle off the dirt floor.

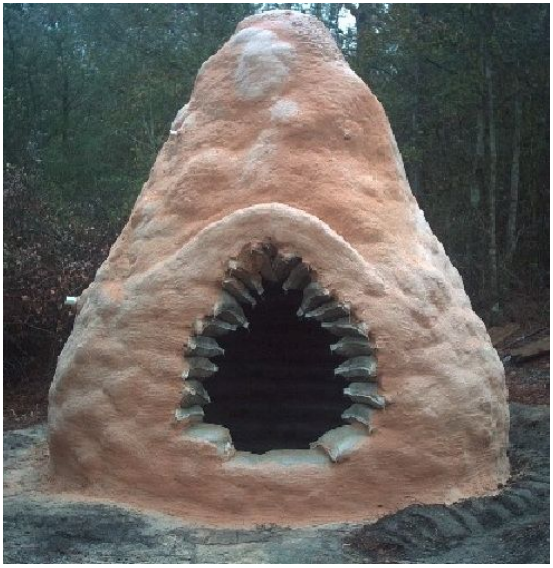
I decided to not do anything with the floor. A book I read about building a sandbag dome described doing a plaster floor and plastering the inside of the walls. I liked the natural dirt floor (it was the same floor I had in my tipi) and I also liked the looks of being able to see the bags on the inside, so chose not to plaster the inside walls or floor.

After the first rain, I realized I was going to have to plaster the outside walls, not only to protect the bags from UV rays, but also to stop several places where the rainwater leaked inside. The pit I dug to fill sandbags for the dome was deeper and had more clay. I shoveled this clay into a wheelbarrow and mixed it with water from the lake to create an earth friendly plaster.

One handful at a time, I slapped this homemade plaster mixture on the outside of the dome. It was a lot of fun feeling the mud in my hands, smoothing it out, and covering the sandbags. It took a lot of mud to fill in the

gaps between sandbags, but I did it. After covering the entire dome, the plaster hardened into an orange covering. When it was complete, I was very proud of my creation.

The plaster dried quickly in the sunshine, but even though it had hardened, the first good rain washed much of the plaster away. So, I did it all again. The only difference was this time I added 1 inch pieces of pine straw into the mixture of clay and water for additional strength. Kathy visited after the plaster was on and suggested the dome looked like a giant termite mound. But the added straw proved to be no match for the torrential Florida downpours of rain. Much of it washed away again after summer rain storms.



I knew I needed to cover the outside wall to protect it and keep the bags from deteriorating. I did not want to use concrete or stucco on the exterior. I wanted to try

and keep things as natural as possible. In frustration after the second coat of plaster failed, I shoveled layers of dirt on the exterior walls. When the rains would wash some of the dirt away - I shoveled more back on it. Eventually I had enough dirt to keep the bags covered.

The months after completing the dome, I began enjoying the fruits of my labor. Afternoon summer thunderstorms were frequent. Sitting in the dome during a rainstorm, I learned the curvature of the open, arched doorway meant the top of the doorway was closer to the center of the dome than at the bottom. This allowed rain to fall inside the dome near the top of the doorway. I tried shaping a small plaster overhang above the door opening, but when the plaster failed the rain still came inside.

In the fall of 2005, a year after getting the idea for a sandbag structure, I decided the dome needed a porch.

Originally my thought was to lay a separate set of bags on the outside of the doorway and form a second arch, but the width of the porch meant the porch arch would be nearly as tall as the dome. I used treated lumber to from a header between two porch columns made with sandbags on either side of the arched doorway. I placed a row of bags on top of the header and covered the whole top of the porch with dirt.

I was happy. My sandbag dome was finished (although I still found myself shoveling dirt back on it after heavy rains). I reasoned natural vegetation would eventually take hold in the dirt which would not only help with erosion, but also protect the bags from sunlight. I also

sowed seeds and placed a few large rocks around it, embedded in the dirt covering. This helped prevent erosion on the outer walls, now covered in dirt.

Once all of our kids graduated high school, Kathy and I did that “empty nest” thing. With no children at home, I was able to spend more and more time sitting in my dome, in comforting, peaceful silence beneath a big pile of sand.



I remember walking down the hill from our house on Father’s Day of 2006 to spend time in the dome. Imagine my surprise when I discovered our daughter had slipped down the day before while we were building houses at Habitat and did some landscaping, including flowers on either side of the doorway. My creation now looked like a beautiful Hobbit House thanks to my daughter. I decided from that point on, the dome would be called - the Hut.

Chapter 2

Subtraction

"A man is rich in proportion to the number of things he can afford to let alone."
Henry David Thoreau

There is something about making something with your own two hands, especially something like the Hut that is … very satisfying.

Our youngest son came to where I was working when I was building the Hut and offered to help. I thanked him and genuinely appreciated the offer, but I told him this was something I wanted to do. I wanted to be able to tell myself and others, I built the Hut with my own two hands.

One of my favorite authors is E. O. Wilson. He emphasises the importance of a defensible nest as a foundation for creating social cultures (whether it be ants, bees, or humans). I felt a sense of satisfaction (perhaps in answer to some inward instinct), as well as pride, that I had built a place to sleep (a defensible nest), to relax, and to escape inclement weather all by myself with no other help.

Shelter is not required for survival (at least not in our Florida climate), but for me, it is required for a good quality of life. Having a place of protection from the wind and rain provides a person with a sense of security, especially if there is possible potential danger from animals. A strong shelter provides a place for

physical safety, which translates to a feeling of security, leading to a more satisfied life.

I built the Hut primarily to replace my tipi, but this … structure made from sandbags, made with my own two hands was becoming much more than a space for quiet meditation. The Hut was a sanctuary, a refuge. It was a place where I could listen to an - inner voice - saying you do not have to follow the same path as other people. It is okay to be different.

I began seriously thinking about simplicity and how little a person needs to live. It was far less than our culture suggested. Simplicity became a way to subtract or remove "things" in my life (rather than buying more things) and became a dominant theme in my life. I am fortunate my wife, Kathy supported me as I began the journey of subtraction.

At the core of my thinking was an idea that was in sharp contrast to what seemed to be the norm of the culture surrounding me. Subtracting things rather than accumulating things.

What do you want in life? What do you think will make you happy? Maybe these are the wrong questions to ask. Perhaps better questions might be - what do you not want in life? What does not make you happy?

I had done something similar with the Golden Rule. There were some things I was certain people wanted done for themselves, that I did not want them to do for me. So instead of the traditional - do unto others as you would have them do unto you, I took the negative

version - do not do unto others as you would not have them do unto you.

Taking the negative version, seems to simplify the Golden Rule and avoid potential unwanted behavior or actions.

I think most people would quickly agree they do not want others to steal from them, lie to them, or cause them harm. The negative version of the Golden Rule (called the Silver Rule) became one of my top mandates to live by.

When I applied the same logic to what would make me happy, it seemed easier to remove or subtract the things I did not want in life, than to seek something I did want in life.

And so began a practice of subtraction in my life. The more time I spent down by the lake, often sitting beneath a pile of sand (the Hut), the more drawn I was to living simply which fell in line with the concept of subtracting things in my life.

I wanted simplicity in possessions, meals, transportation, finances, entertainment, relaxation, and even my thoughts and desires. I wanted to remove anything that was not necessary, that I did not want, or that made me unhappy.

I began to remove clutter from my life. I let go of many things I realized - I no longer wanted or needed such as watching television, sports, politics, eating meat, driving

a vehicle, having lots of clothes, and other things that served no specific purpose in my life.

Even though Kathy supported me, this was my journey, not hers. She was good with taking the televisions out of the bedroom and living room for example, but wanted to keep one in the computer room where she spends much of her time. Nor did she give up meat (although she has many meals that are vegetarian).

I stopped allowing what others did for “happiness” to influence my choices. I stopped looking for new things that might make me happy and began subtracting existing things in my life that I knew did not make me happy.

Eventually this led beyond just getting rid of things and clutter in my life to the idea of no longer going to work every day. I began working when I was 13 as a busboy in a truck stop restaurant. Over the years there were many times when I did not want to go to work (even after getting my dream job as a computer programer), but I did, day after day after day. Work was a necessary part of my life.

I began to seriously explore ways I could someday retire early. Removing things from my life (including unnecessary new purchases and debt) meant saving money which would allow me to at least retire before normal retirement age.

Practicing subtraction in my life seemed “right” somehow. At some deep inner level I sensed it was creating a new direction in my life for the better.

Mentally and emotionally I felt stronger and more satisfied.

Over time the practice of subtraction carried me to an inward space where the once constant chatter in my head was replaced with simple observations and genuine interest in nature. Rather than having a wild imagination or having thoughts entangled by a regretted past or an anxious future, I found ways to quiet my mind and to listen more. I made time to sit in silence each day.

I began to listen to an inward voice that reflected complete self honesty (often painful to hear) that was both accurate and simple, based on experience and sound reason. That still small voice within (as I prefer to call it), not only helped me know right from wrong, but also helped me to know what I truly wanted (or in this case, did not want) in life. But to hear the still small voice within, required silence and listening.

Building with sandbags is a good way to “clear the mind” and to ... listen. It is hard to listen to constant mental chatter about what I did yesterday or what I think about a particular person while trying to fill sandbags and then carry them to the building location.

Sometimes we just “think” too much and hard physical labor is a great way to let our minds settle down. I think the more sandbags I filled, the more in tune I became to the still small voice.

For me it embraced a theme, a lifestyle, of simplicity. I think simplicity emerges when practicing subtraction.

Simplicity certainly emerged from practicing subtraction for me, as I listened more and more to that still small voice and followed (sometimes the better word is obeyed) its promptings.

Simplicity can penetrate all aspects of life such as material things, our choices, our thoughts, and desires. Yet, the Hut (and the quiet listening I found inside the Hut) became something of a focal point for simplicity in my life.

Within the walls of the Hut, there were very few … things. In addition to the walls that gently slope inward forming the dome which makes up the roof, there is a dirt floor and a block of wood to sit on. In those days, that was all.

I did keep incense and a lighter in the Hut as well as a candle, but there was nothing else in the Hut, but space and an invitation to silence. The Hut as a shelter is about as simple as a permanent shelter can be.

Sitting in the Hut, made me feel like I had a much better shelter than most, even better than a person with a huge mansion. There was definitely far less maintenance and expenses with the Hut. I was very satisfied with just a place to sit, sleep, read, meditate, and play my flute, or listen to music.

I found myself spending hours at a time sitting beneath the pile of sand. I enjoyed the inward silence and listening to the sounds of nature outside. Often I would go to the Hut during the night, to sit and listen to the

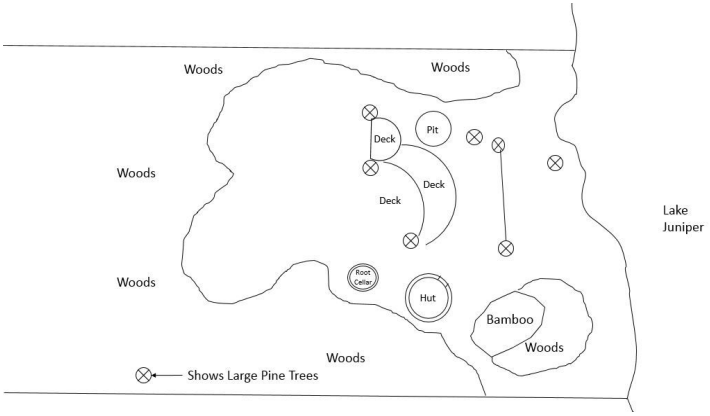
frogs. I almost always left the Hut feeling renewed and refreshed.

The practice of subtraction is a simple concept - subtract things you do not want or need.

The Hut and the practice of subtraction brought a new direction to my life. Little did I know filling sandbags for the Hut, was just the beginning of an entire new world, I would build using sandbags.

Chapter 3

Decks



Building with sandbags is very forgiving. I seldom used a tape measure while building the Hut. Precision is not required. Using a string as a guide, along with common sense was enough. Over time I made small changes to the Hut, but for the most part the main structure (especially on the inside) is still the same 14 years later.

In the summer evenings, mosquitos discovered the Hut, so I put up a screen covering over the doorway. During the day, I could lift the screen out of the way so as not to block the beautiful view of the lake. Sitting in the Hut is … comfortable no matter what time of the day or year.

Building with sandbags is an excellent insulator. During cold winter days when temperatures were below freezing, I could go in the Hut and with no additional heat, and enjoy temperatures near 50 degrees (even when a strong north wind was blowing outside). In the

summer time is was 15 degrees cooler in the Hut than outside, even in the middle of the day.

The Hut was not only something I was proud of, but something I knew I would enjoy for many years. Yet, when we had visitors and I took them to the Hut and showed them my pride and joy, I realized - the Hut was perfect for me, but it did not accommodate more than one person very well.

Two or three people could sit inside the Hut in relative comfort, but they would be sitting close together. And there was no way two people could sleep inside the Hut without intimacy. And so, I decided to build something bigger.

Our property leading down to the lake has a gradual slope. For every 100 feet there is a about a 20 foot vertical drop. The slope made it difficult to sit in chairs or even have a picnic table without feeling like you were sliding off the bench.

I used sandbags to build small decks or terraces to make the ground level enough for chairs, tables, and tents. While thinking about where to build the sandbag decks, I was also thinking about the location for a bigger dome that could accommodate more than one person.

There are several big pine trees on our property. There is one spot where two very large longleaf pine trees are only ten feet apart. I decided it would also be the perfect spot to build a new and larger dome.

The hole I dug to fill sandbags for the Hut was near the location of the two large pine trees. I had decided to keep the hole open and use it for camp fires. I called it … the pit. The pit was about 20 feet from the two pines.

I wanted the new dome to be both bigger and deeper than the Hut. By going deeper the new dome would have even more insulation from outside temperatures than the Hut. I planned to create the new dome next to the two pine trees, on the side away from the lake, and with the doorway facing south away from the north wind.

I liked the idea of building a new dome. I thought, maybe I could even do two stories, and have the upper portion face the lake and the pit (for campfires). But because of the slope of the land, I felt like I should build some kind of terrace to make the area outside of the front door of the new dome flat. However, if the new dome was going to be two stories, that would require something like a deck to go between the top and bottom floor.

With this line of thinking, I decided a tall (about 5 feet above ground level) sandbag deck between the two pine trees was in order. It would overlook both the pit for campfires as well as the lake for watching sunrises. And it would provide an outside transition to go from the lower floor to the second floor of the new dome.

With the location of the new dome settled, I began digging a new hole. I placed a stake in the spot for the center and using a 12 foot string, I walked in a circle around the stake kicking the the ground to mark the edge of the circle and began digging.

I used the excavated dirt to both fill sandbags for the new deck (which were laid in a semicircle for strength, with each end of the semicircle butting up to each of the two big pines). I also used dirt from the new hole I was creating to fill in the area inside of the semicircle that would create the 5 foot deck.

I realized if I was going to have two stories on the new dome I could not have the entrance to the lower portion directly facing the lake since the deck would be there. I faced the entrance of the lower part of the new dome towards the Hut and then have sandbag stairs leading from the lower part of the new dome up to the new deck and from the new deck build stairs to lead into the entrance for the upper portion of the new dome which would directly face the lake and the eastern sky for spectacular morning sunrises.

I expected the deck would be about 5 feet tall, which would be about 12 rows of sandbags. I drove a stake at a point halfway between each of the pine trees. Then I tied a string to a small nail in the top of the stake and cut the other end of the string when it was at the center of one of the pines.

The string was the radius for the new semi circle. Using a large stick and the string I marked a semicircle in the ground. Using a flat head shovel I leveled the area where the first row of sandbags would go.

I began building the deck one row at a time with the same methods I used for building the Hut, except the walls would go straight up vertically rather than sloping

inwards. It took 12 rows of 14 sandbags for each row to build the deck. It took much more dirt to fill the inside of the semicircle deck to a height of 5 feet and make it level. I used sandbag to form the steps to go from the ground up to the backside of the new semicircle deck.

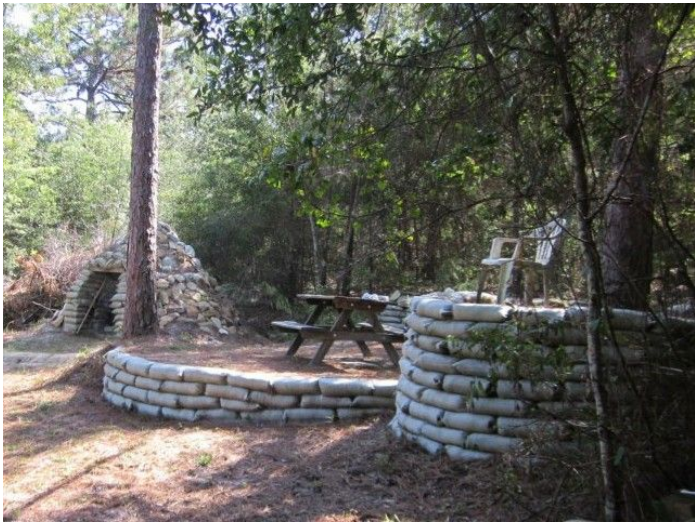
Excavating enough dirt for the deck and the steps required almost 2 feet of dirt from the 12 foot circle were I planned to build a two story dome.



With the new semicircle sandbag deck complete, I took a few months off to enjoy the fruits of my labor. I put two lawn chairs on the new deck and loved going down to the lake in the mornings to watch the sunrise from the new deck.

I sometimes thought of the elevated deck as a throne and found myself calling it that often. Sitting on the throne deck, five feet above the ground, looking out over the lake, I felt like I was the king in my own little kingdom. It was another world, far, far away from my typical daily routine.

We built our house in 1985. I had spent years enjoying the property down by the lake, but I could not believe the huge difference it made to sit on … level ground. I knew I needed to do the same thing - make the ground level, in other areas of our property where it sloped toward the lake. That point was highlighted when we had all of our grandchildren over for a campout and Abigail, our youngest grandchild (at that time) was sitting in her small folding chair and fell over backwards because of the slope of the land. It was definitely time to make more sandbag decks or terraces.



After building the throne deck, I decided to build a shorter and wider deck between the throne deck and a large pine tree about 25 feet away from the throne deck. I could use the throne deck to buttress one end of a new semi circular deck and the large pine for the other end. I excavated dirt for the new deck from the side of a steep hill just behind the hut.

Even though the second deck was much wider than the throne deck, it took fewer bags and dirt because I only made it tall enough to make the ground level, which was 4 rows of bags high. Once it was complete it became the perfect place for my frequent campouts. It was wonderful having level ground to sit on and to cook on or pitch a tent.

The second deck worked out so well, I decided to build a third, lower deck. I would use the throne deck again to buttress one end and also use the same pine tree I used for the second deck for the other end of the third deck.



It became another semi circle of sandbags extending out at lower level from the other semi circle.

Standing on top of the throne deck and seeing the two new semi circular decks below, made me feel like I had found the perfect solution to deal with our sloped property. Plus, I thought it looked pretty cool as well. I was very happy “making things” with nothing but dirt, sandbags, and a shovel!



After building the Hut, I made a 30 foot long, 4 foot high wall of sandbags in full sunlight in our backyard. This wall was an experiment to see how long the bags would last in full sunlight with no additional protection.

After two years a small portion of the bags had deteriorated, but the dirt inside had become almost as hard as concrete and continued to hold its shape. I decided the experiment was over and it was time to repurpose all of the salvageable bags further down the hill by the lake.



I dismantled the wall and using a wheelbarrow (good thing I was moving them down hill, instead of uphill) I moved all of the bags from the wall to the area I had excavated in the side of the hill to build the decks. I used some of the bags to make a floor and then began making a small dome with the rest.

This could be a perfect root cellar since half of it would be in the side of the hill. I built it with ten rows of bags (left over from the walled fence experiment) and left a small opening at the top, that I covered with big flat rocks. The opening was big enough for me to go through and get inside the root cellar. Standing on the floor of the root cellar, the top row of bags was shoulder high. There was enough room at the base for me to lay down.

I use the root cellar to store things like sealed dehydrated foods, rice, wheat, and beans. The rocks covering the top, keep any “critters” from getting inside (especially squirrels).

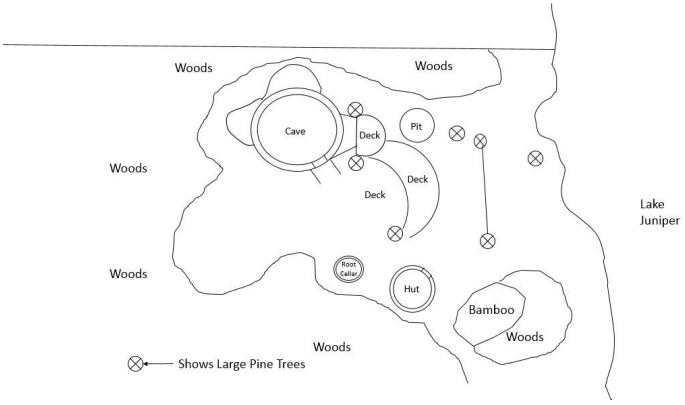
After building the root cellar I did a small straight row of bags between two pines close to the edge of the lake and hauled in dirt from a drainage ditch by the road in front of our house to level the ground in that area. This made a fourth sandbag deck or terrace making the sloped property much more usable.

I also made a small terrace in front of the Hut to control drainage and help water the bamboo grove I had planted.

I took a long rest and enjoyed the fruits of my labor. The Hut was a safe sanctuary, a place of quiet retreat, and shelter from the weather, but the new decks had the best views especially for the morning sunrises. I enjoyed both the Hut and the decks with great satisfaction knowing it was all created with my own two hands.

Chapter 4

The Cave



In October of 2012 a friend and I were sitting on the throne deck and talking. We were talking about life and about being happy. We both agreed life is too short to remain in a job or a relationship that prevented happiness. We owed it to ourselves to find things and people that make us happy.

At some point in the conversation about what made us happy, I remember telling Pam how happy I was with my sandbag hut and that someday I wanted to make a bigger dome. I pointed to the hole in the ground just behind us, that was created when I excavated the dirt used to build the throne deck we were sitting on. I told Pam (pointing my finger to the hole) - “that hole is where I will build a two story dome some day”.

The hole had been there for years and the bottom was covered in pine straw. About the only thing the hole was used for, was when I pitched a tent in it during one of my

frequent camp outs. It did not look like a future project of any kind.

Pam asked “so when do you plan on building this new dome”?

I answered, “Oh, I don’t know. I’m thinking maybe when I retire at 65”.

Pam then wisely asked, “Do you think you’ll still be able to lift sandbags at that age”?

She had a point. A very good point!

I was always careful when filling and carrying the sandbags. When working with sandbags, I stopped working after a couple of hours, just to make sure I did not over do it. When I lifted the bags I was always careful to let my legs do most of the work and not my back. I have never had any problems with my back, but I knew other people who had and I did not want to experience back pain.

I was in good health. I honestly felt like I had more energy after becoming a vegetarian and from switching to primarily eating only whole foods (beans, rice, mushrooms, oats, quinoa, mixed nuts, fruits, seeds, and a variety of veggies).

I did a short yoga routine each morning, along with situps and pushups. I also did a few reps with 30 lbs of dumbbells. And riding my bicycle 10 miles a day to commute to work every day, made me feel like my health was better than most men my age.

My good health allowed me to physically outlast young men in their 20's when we worked side by side building houses for Habitat for Humanity. Even when doing shingles on the roof or hanging sheetrock, I was often the last man standing and still working.

With eating right and lots of daily exercise, I was healthy and always felt like I had plenty of energy. I did not feel like I was getting old. In my mind, I was in just as good of shape as ever, and it did not dawn on me that someday I may not be able to fill and carry sandbags. But after Pam's comment, I realized - I did not know how healthy I would be after retirement. Plus, there's no time like the present.

What was I waiting on? I knew I wanted to build something bigger. Why wait until retirement? I was 54 at the time and retirement was still far in the future. Within a month of Pam's comment, I purchased 1,000 sandbags and began working.

The existing hole was 12 feet in diameter and about 2 feet deep. I decided to dig deeper to a depth of about 4 feet This would give me dirt for the sandbags I would need to build the new dome, and the extra depth would provide natural cooling in the Florida summer heat.

Beginning in November of 2012 every Saturday when we would come home from working at Habitat, I spent 1 - 2 hours digging and filling sandbags. On most Sunday afternoons I would spend another hour or two digging. That pace allowed me to fill over 100 sandbags a month. Progress was slow, but it was steady.

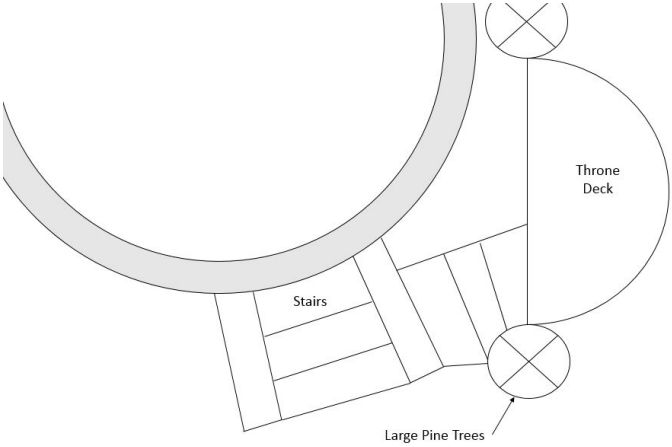
Because of the large pine trees nearby, roots were abundant. Unfortunately there was a large 5 inch diameter root going right through the middle of where the dome would be. It was a horizontal root and not the huge tap root the pine tree needed to live. Reluctantly I cut the root, flush with what would be the outer part of the wall for the new dome. I hoped I had not harmed the pine by completely removing such a large root.

I had a strong bond with the two pines on either side of the throne deck. When we first purchased the property in 1985, I enjoyed stretching a hammock between the two pine trees. I would lay in the hammock and read or nap. My time spent between the pines was always relaxing and enjoyable. It was a root belonging to the pine on the north side of the deck that had to be cut. I sincerely hoped I had not caused severe harm to my old friend. Now, years later, I am happy to report, that pine tree is as strong and healthy as ever.

As I went deeper with the hole I had to make a ramp to carry the bags out of the hole to the location where I temporarily stored them. I had no plans for the new dome. I knew I wanted it larger than the Hut, but other than that, I was playing it by ear, when it came to how I wanted or expected it to look. The ramp just happened without much planning.

Once I began using the ramp, when it was no longer needed I could turn the ramp into stairs and maybe have a little porch over the stairs leading down to the doorway of the new dome. The stairs could branch off into two directions. One way would spiral around the big pine on

the south side of the throne deck and lead right up to the back side of the deck. The other direction for the stairs would be the entrance to the new dome.



When I reached a depth of about 3 feet, I encountered thick clay in some areas. If bags were filled with more clay than dirt, I stacked them in a separate area thinking these would be the best bags to use on the first foundation rows of the new dome.

Since I only had another foot to dig before I could begin laying bags, I decided rather than filling bags, I would pile the dirt in the center of the hole and then fill bags and lay them once I was at the depth I wanted.




Once I reached the depth I wanted, it was time to take a break. Conveniently, that was also the depth where digging deeper required a pickaxe to break up the dirt. Our property had a moderate slope (at least moderate for Florida) going to the lake. Drainage was good and there was never any standing water after the heaviest of rains. But, I wanted to see if any groundwater surfaced over time in the new hole or if heavy rains would create drainage issues.

Fortunately a person seldom has to wait long to experience heavy rains in Florida. After a couple of good rains and no issues with standing water, I decided to press on with building the new dome. I began by placing a couple of inches of gravel in the bottom of the trench for the first row of bags to help with drainage and to prevent moisture from wicking.

Next it was time to start laying sandbags. I began laying bags and tamping them using the same techniques I had used building the hut and the decks. The direction of the bags were reversed every other row and the joints were staggered between rows.

As I said, I had no plans about what the final dome would look like, but I knew, I was going to eventually make the ramp into a set of stairs with a porch

overhead. That meant the door to the dome would be at the base of the stairs. The last step would drop down to the final depth of the floor of the dome.

After laying and tamping two rows of sandbags (just enough for a comfortable final step), I left a 3 foot opening for the doorway on the third row of bags. On either side of the doorway opening, I interlocked a short row of bags perpendicular to the other sandbags in the main circle.

The short interlocking rows would help support the doorway. I interlocked them with the bags from the dome by staggering the bags from the two short walls on either side of the doorway with the bags from the dome. Staggering the bags on the corners of the doorway would stabilize both the walls of the dome as well the short walls on either side of the doorway that would be used for the porch (the short walls were 3 bags long on either side of the doorway).





With an idea for what to do with the doorway, I added more rows. After going up 4 rows of sandbags, I realized, I was going to need more sand for this project. I decided to add two additional rooms to the dome. Excavating the dirt for additional rooms might give me enough sand for the project.

On the fifth row of bags I picked out the spots where I wanted the two small rooms and left openings for two more doorways. The doorways were 32” wide. Since I was already 4 rows above the floor for the main room, I envisioned the doors to the new rooms, would be more like large windows.





I built two semi-circle shaped forms out of plywood and 2x4’s to create the arch for the top of the doorways. The forms rested on a 2 foot tall wooden frame that could be removed once the sandbags for the arch was in place and tamped down. One doorway would give access to a room on the north side and the other would be for a small room on the west side.

With a plan to have more sand, I returned to filling up sandbags. After going up 3 more rows on the dome, it was time to build a frame for the main doorway. Since my two semi-circle forms for arches were being used, I decided to make the main front entrance something like a triangle shape.

I also decided to have a foyer on the outside of the door where I could build a regular door frame and have a standard exterior door. I did not have a clear picture for exactly what the roof would look like above the foyer

and exterior door, but thought, if nothing else I could build a small traditional gabled roof if necessary.

With the forms for all of the doorways in place, I returned to adding rows of sandbags, including bags for the walls for the foyer. Progress was slow, but steady. Adding two additional rooms gave me plenty of dirt and sand to fill more bags.

I made the two small rooms in a semicircle shape. I butted the walls up against the walls of the main room of the dome. Once the walls were about chin high I added 4 inch pvc pipes in between rows, to be used for ventilation and small windows. In the small rooms I used 3 inch pvc pipes for the same purpose. I left enough room on the ends of the pipes to extend far enough away from the sandbags to allow a cap on either end if I wanted to close the opening when it was cold outside. I also used smaller .75 inch pipes to bring in wires from solar panels into each of the rooms.

I kept filling sandbags and tamping each row and marveled at the larger size of the project, as the walls went higher. Once the walls reached a height of about 7 feet, I began thinking seriously about how to build a floor for the second story.

I decided to build a traditional floor using treated 2x10's for floor joists. I also made the decision to make the upper floor completely separate from the lower floor. I could use the throne deck and build steps to a higher entrance for the second floor that would face the lake and essentially create two separate spaces - lower and upper. Keeping the floors separate meant I would not

have to be concerned with having an opening in the floor nor having stairs or a ladder in the lower part to access the upper floor..

Since I was going to build a traditional floor, it was time to stop going higher with sandbags. I tamped the top row to make the top of the walls as level as possible. I recall standing on the top of the walls tamping and feeling a sense of pride at what I had created. The walls were relatively stable and looking down at a 7 foot deep room that was 12 feet in diameter on the inside was impressive.

The outside of the structure was about 4 feet high above ground level, but the inside was 7 feet deep. When walking down the hill on the path from our house, it looked like a small mound of sandbags that few would guess was 7 feet deep on the inside. Walking down the hill and seeing my sandbags rising up from the ground, I often wondered how many people could or would do what I was doing. Would people think I was crazy if they knew? It really did not matter to me what other people might think. I was proud of what I was doing.

I was answering some unknown, inward call within me. It was almost as if I was compelled to do this, to answer the question - what does a person really need to enjoy life?

That is still what drove me and pushed me to fill sandbags. The idea of building a shelter with nothing but the earth, sandbags, and a shovel was still a driving force that motivated me to spend what free time I had filling sandbags.

Since I was ready to add the floor joists, I decided it would be best to remove the arch forms for the two smaller rooms. I wanted to be sure they worked. It was February 3rd, 2013 (just 4 months since I started).

I began with the form for the west room. As soon as the arch form was lowered, I took my camera and took a photo, amazed that 50 lbs of sand for each sandbag could be suspended in mid air.





It was a thing of beauty. I went to the top of the wall and walked around and stood over the arch. There were 4 rows of bags above the arch providing enough weight to have a strong downward force for the archway to be stable vertically.

Unfortunately once I was standing on top of the wall, I quickly realized I had a problem.

I could feel the wall swaying horizontally. It was very wobbly

I quickly got off and began looking for something I could use to brace that section. I found some long 2x4's and

tried to brace the top of the wall to a tree, but I was too late.

I could see it moving. I rushed toward the wall thinking I might be able to hold it up, but there was far too much sand, far too much weight. It was futile. For my own safety, I had to retreat as I watched the top of the wall fall toward the outside.

About 15 percent of the entire wall of the new dome collapsed. Bags were piled and scattered in a big mess.

I felt a moment of … defeat.

My first thought was - I should have used barbed wire between the rows for lateral strength. But as I often did after filling sandbags, I found my chair and sat down and thought about it. After filling bags, I liked to sit in my chair and both admire the work I just completed as well as plan for the next work day.

After that section of the wall collapsed I sat in my chair and thought - what caused this and how can I salvage this?

As I studied the collapse, I realized my biggest problem was adding the two rooms and not interlocking the walls of the two rooms with the walls of the main room. Had I done that, it would have been impossible for that portion of the wall to have fallen outwardly (or inwardly for that matter since the shape of the circle prevents an inward implosion).

Also, removing the form before the walls of the west room were higher contributed to the collapse. Had the walls of the west room been higher and interlocked the main wall on either side of the arch, the collapse would have never happened. It was not the lack of barbed wire that caused the weakness, it was the lack of external support pushing the wall back inwardly, that allowed it to be pushed outward and fail.

The next big problem to solve was - how do I salvage this? I not only had to figure out how to rebuild the collapsed portion, I also had to make sure I could prevent the same problem when I removed the arch form from the north room doorway.

The triangle shape for the main doorway on the south seemed to be working well (although I still had the wooden form for it in place). I decided go back with a triangle doorway for the west room instead of an arch.

For the north room doorway, I felt like I had no choice other than to remove several rows of bags from the portion of the main wall and bring the walls of the north room higher, in order to interlock the north room walls with the main wall on either side of the north arch.

That is what I did.

I removed the top few rows of the portion of the wall still standing over the north arched doorway. I began building up the walls for the north room and interlocking those walls with the wall of the main room on either side of the arched doorway (which, still had it's wooden form in place).

I also made a triangle doorway form for the west room and began rebuilding the portion that had collapsed. Rebuilding that section was much harder. I had to try to interlock the new bags with the existing bags that were still standing after the collapse. That required a lot of creativity and finding just the right size bag to fit the existing wall snuggly. Tamping the portion where the new wall met the old wall was also a challenge, but I managed to make it work.

I rebuilt the collapsed portion as well as interlocking the north room with the main room walls to ensure it would not collapse after the form was removed. On March 16th, 2013 I was back to the point where I was over a month earlier. I was ready to build the floor for the second story.

But just as I had done when I removed the form for the west arch doorway, I knew I needed to remove the arch for the north doorway. I have to admit there was a part of me that still wondered if the collapse came from not using barbed wire between the rows.

But sitting in my chair studying the interlocked walls for the north arch, I knew the only way it would collapse would be from downward force. The north room would completely stabilize that portion of the main wall and prevent any outward movement of the main wall.

I removed the form and - all was well. I scrambled on top of the walls after the form was removed, just as I had done with the west wall. I immediately knew I had solved my problem.

Standing on top of the wall, I could feel how solid the bags below me felt. I jumped up and down several times on the top of the wall over the arched north doorway, with the form removed and felt like I was jumping up and down on an asphalt parking lot.

My solution worked. Everything felt strong and stable. I added one more row of bags over the next couple of weeks and began leveling the top of all walls to prepare them for the floor joists. I also removed the form for the triangular doorway for the main entrance. There were no more wood forms in my new sandbag creation other than the exterior door at the entrance.

On April 6th, 2013 I filled and laid the 1,000th sandbag completing the lower portion. I continued to level the top row of bags and decided it was time for a break. The next step would be adding a floor.

I took a step ladder and placed it near the back (away from the lake) of the new structure I had built and took a photo. When I later looked at the photo on the computer, I thought, so this is what 1,000 sandbags filled with sand can look like. All it takes is some dirt, sandbags, a shovel, a little time, and lots of work.




I took a break and did nothing for 3 months. I often went down on weekends and sat in my chair on the throne deck looking out over this new structure and - admired it. With much of it below ground, I thought once it had a roof it would resemble a dark cave. I was proud of my creation. I was proud I had done all of the work on this "cave" myself. Here was a space that could be used for sleeping, storage, and living once it was completed.

Once the floor for the second story was built (which would become the roof for the lower portion) I would have a well insulated shelter partly below ground made from nothing but sand. But sometime during that time of admiration (on July 3rd 2013 to be exact) - my admiration turn into an even bigger defeat than I felt when the west arch doorway collapsed.

I walked down on the evening of July 3rd and found 30 % of my new structure had collapsed near the area of the main entrance. My heart was … broken.

I was so sad. It was the evening before the Fourth of July when I walked down and found sandbags strewn all over the place, near the main doorway. We had had extremely heavy rains for the past week prior to the

collapse. New rainfall records had been set. It was still damp when I walked down the hill and discovered my 1,000 sandbag creation had surrendered to the forces of gravity.

Reluctantly, I returned to the house and got my camera and took some heartbreaking photos as dusk fell and the day ended.





That night, I felt like I was done. This was the second collapse. I began second guessing my design and even doubting my engineering skills. Once again the lack of barbed wire began to plague me. I was too heartbroken that night to do anything, including thinking of any plans for rebuilding. Perhaps it was time to surrender.

I had my Hut. It had survived 8 years and was still going strong. Thoughts of giving up the whole project dominated my thinking that night.

The next day I remember going to my sister, Terri's house for a family gathering. Family members commented on how sad I looked and I finally confessed that my 1,000 sandbag structure had failed.

They tried to bolster my spirits with a lot of encouragement and suggestions that the recent heavy rains were too much for unprotected sandbags. I appreciated their efforts, but it really did not help. Yes, it gave me some comfort to know what a loving family I had, but ultimately the only reprieve I thought I would have was from understanding exactly what happened. Where had I gone wrong?

Chapter 5

Things I Don't Know

"A man should look for what is, and not for what he thinks should be."
Albert Einstein

I did not really know what caused the collapse. That lack of knowledge can be added to an extremely long list of things I don't know.

I am very happy to be living in the age of the internet, with so much knowledge available to anyone with an internet connection. When I was in high school one of my favorite past times, at home, was to take my parents encyclopedias and randomly browse through them, reading articles about a variety of topics. I still do that today, except I use Wikipedia (the best digital encyclopedia ever). And how amazing is it, that we can ask Google nearly any question and find information about it, if not a complete answer, instantly?

In addition to learning from other people's knowledge (thanks to books, articles, and the internet), I also learn from trial and error. I do as much "fact finding" as I can. I combine that with my own experience, reasoning, and intuition and go from there. If there are any missteps, I try to learn from them.

That is pretty much my approach to anything new. I love the internet because it allows me to do my own research, even though knowledge available online can

sometimes be hard to understand (and sources must always be evaluated).

I enjoy learning from reading books and nonfiction articles. Most of what I read is science related and often on topics sharing the latest research in physics, chemistry, biology, genetics, psychology, or computer algorithms.

As a computer programmer, I like learning about genetics and the wealth of information we are discovering every day through genetic research. I have always been fascinated by computer code. Genetic code grips my interest to the point, where some people I know have to ask me to stop talking about DNA. I tend to go on and on when talking about it.

I also love learning about the trillions of cells in the human body and how they function and communicate. Our incredible immune system and the neural connections in our brains boggle my mind. And don't get me started on protein folding, amino acids, and cell growth. Reading and thinking about genetics and DNA replication and transcription would occupy much of my free time, if I allowed it.

Yet, I am forced to admit my ignorance about genetic code. It seems like the more I learn about some topics, the more I realize there are so many more things I don't know.

Even though I admit, I know very little about how cells actually work, it does not stop me from trying to learn what I can. There are online videos showing the

replication and transcription processes of DNA in real time animations, with facts that completely astound me. From the number of genes in a species, to a better understanding of our own regulatory DNA, the internet allows people to share their discoveries and research, allowing everyone to learn.

I often feel like a kid in a store being pulled into several competing directions for my attention when I am exploring the internet.

The wonder and fascination of it all is not restricted to genetics, biology, and life. The shear size of the known universe blows me away. I find it odd that most of the people I am acquainted with usually don't know that the Milky Way has billions of solar systems and that it is but one galaxy among billions and billions and billions of galaxies. Just the comprehension of a light year and the distance between solar systems in our galaxy, not to mention the distance (in both time and space) of 13.7 billion light years, never fails to leave me in awe and feeling like there is so much I just don't know.

The scope of our knowledge extends from the macroscopic scales of the known universe all of the way down to the submicroscopic scales of particle physics that is equally mind blowing. Lee Smolin is one of my favorite physics authors. His books always expand my awareness.

If more people only knew the unbelievably small scale of a Planck length and our current understanding of the weirdness of quantum mechanics - they could not help

but to live in a state of wondrous admiration, if not utter disbelief!

I also enjoy following the flow of computer algorithms, especially those used in artificial intelligence. I love technology! I tell people I have always had a passion for ones and zeros. Few people understand that the basic foundations of our technology and playing an enormous, fundamental role at the heart of it all, is a long series of ones and zeros.

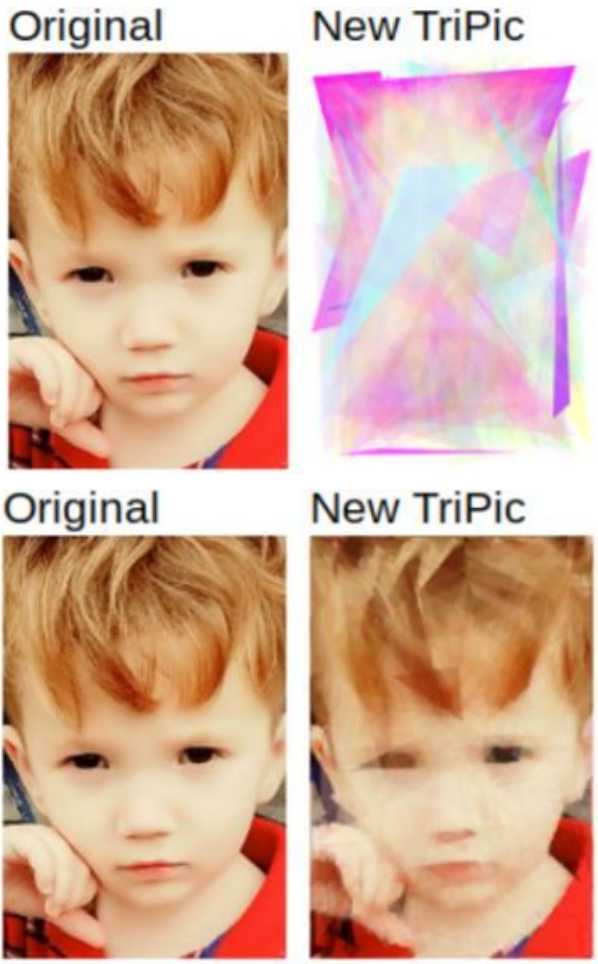
I have modified an open source genetic algorithm that randomly draws triangles trying to match a target image. Essentially, beautiful artwork (I call TriPics) is created using nothing but triangles, which can be reduced to a long series of ones and zeros. Part of the beauty of this program is that each time it is executed, it uses an entirely different set of triangles. I could run the program 1,000 times and it would never repeat the same sequence of triangles used to create the image. Yet, each of the 1,000 images of triangle art would bear a close resemblance to the original target image. At the heart of it all is nothing but a long, long series of ones and zeros.

And this program works well, yet it is built using only a handful of simple rules. Here is the simple pseudo code for the algorithm:

- Start with 500 randomly shaped white triangles in random locations on a blank canvas.
- Randomly change a triangle's color, shape, or transparency.

- Does the change make the new image more like the original image?
- If the change is better, keep it, if not skip it.
- Repeat and then repeat again and again and again.
- Let time do the work by repeating over and over and over.

The more time that passes (as in hours and hours and hours), the more the combined triangles looks like the original image, including having the same colors.



The combination of randomness with lots and lots of time can produce complex results. Emergent systems can produce order out of chaos, not just in the digital world, but also in life. It makes me pause with admiration and appreciation, once again reminding me that no matter how much I learn, there are many, many things I just don't know.

I never want to stop learning. I do not like the idea of not learning. While I love researching and exploring the internet or reading current nonfiction books, I fully acknowledge there are far more things I still don't know than things that I do know.

Sitting by the lake, I am often caught up in thinking about biology and about the dna of mosquitoes, dragonflies, pine trees, and turtles. The code for life is all around, as are the mysteries of life. There is so much we still don't know. My curiosity about some of those mysteries, fuels the drive to read and learn more.

Here the practice of subtraction has brought balance in my life between the desire to learn and the need to be still and listen. Mysteries about life will outlive us. And while I enjoy learning, I do not want it to consume me or to take up all of my time. It is okay to admit there are some things I don't know.

Sometimes I think mysteries (and what we don't know) can be better understood, by subtracting speculation about them (unless you are a theoretical scientist) and accepting that it is okay to have a mystery. There are benefits in accepting what is not known. I have learned to be content with the idea that, I don't know (and possibly can not know) many things.

All living things have their own set of internal instructions. A bird knows how to be a bird just as a germinated plant seed knows how to orient itself toward the sun to grow. Even though I do not know much about the instructions on how to be a human being, I can still be one, just as a cat can be a cat without actually

knowing how that happens. I tell myself it's okay (if not even beneficial) to not know (or try to know) some things.

I love reading and learning and if not careful, I could spend much or most of my time researching the enormous volumes of information on the internet. But there is a limit to the number of hours in a day.

The practice of subtraction led me to a place where I learned to monitor (and thus reduce) time spent reading (and researching). That allowed me to find time for simple, quiet, observations in nature, and exploring my own internal instructions, on how to be and what it means to be … a human being.

I have found sitting in nature and being silent, allows me to better hear that still small voice and gather a sense of what direction to take (sometimes without fully understanding the direction).

Much of what I have done with sandbags came from common sense and trusting instincts.

I research what I can, but I also trust my own experience. The Hut was built using common sense, with a general plan coming from ideas in two books I read. That process worked. The Hut is still standing and it is stronger than ever.

So with the collapse of a portion of the Cave, I had to accept, it was okay to not know the exact cause. It could have been the record setting heavy rains we had. It could have been the way I built the main doorway. It

may have been the mixture of sand I was using. I freely admit there are many, many things I don't know, and what caused the collapse of the Cave was one of them. I decided to continue to trust my instincts, common sense, and what I do know about filling sandbags and move forward.

Chapter 6

The Cave Part II



It is difficult to describe what it was like to walk down to my creation on July 3rd, 2013 to discover over 300 of the 1,000 sandbags had come tumbling down.

What if I had been down there at the time? With each bag weighing about 50 lbs, I could have suffered serious injuries. And even worse, what if any of our grandchildren had been there with me?

The thought horrified me.

One thing I was absolutely certain of - if I moved forward with this project it would only be when I knew, beyond a

shadow of a doubt, that this structure would be safe enough for our grandchildren to enjoy.

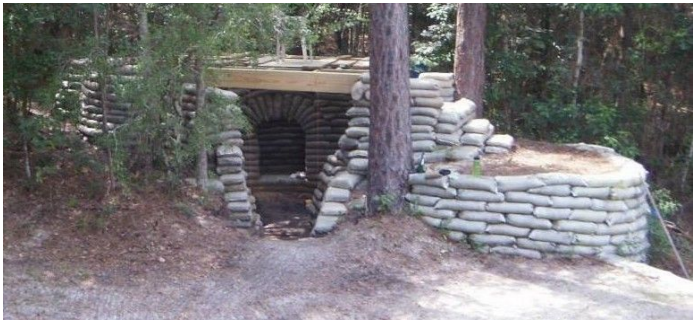
If I rebuilt the collapsed portion, it would have to be stable and safe!!! Even if I did not know what caused the collapse, I had to be confident that moving forward with the project it would be safe.

I decided - I had to try it. I could not walk away from what had compelled me to come this far. I had to rebuild, or at least try. If after rebuilding, I did not feel safe, I told myself, I would stop. So, without really knowing what caused the collapse, I was determined to keep building, trusting my common sense and my instincts.

And so, the weekend after the Fourth of July, I began clearing the big mess created by the collapse. Once all of the collapsed bags were pulled and stacked, I found myself sitting in my chair staring at the big gaping hole in the main wall. I told myself not to get in a hurry. This needed to be right. If I was going to have a second floor, I needed to be confident about the best way to move forward.

Since the doorway also had to support the floor when I built the second story, it had to be strong. I rebuilt the doorway with inverted slopes in the shape of the letter V. I could use beams over the top of the doorway to carry the weight of the floor and upper section. That was the direction received from both common sense and that still small voice within.

Back to work I went, adding sandbags back to the portions of the walls still standing. I had to get creative. Tamping bags where the new bags joined to existing wall was a challenge, but I made it work as best as I could. Starting back from the lowest rows, the rebuilt wall slowly rose back to the pre-collapse height. At last, I was back to where I had been in early July, but this time with a much stronger and better doorway.



Once the main walls were rebuilt and I was satisfied it was going nowhere, it was time to once again think about adding floor joists. I made a mistake by not having the lumber I needed delivered.

The floor joists would require 17 treated 2x10 inch treated lumber of different lengths (between 8 foot and 12 foot). I made a mistake by buying them and loading all of the lumber into our small pickup truck. Luckily the hardware store was only 6 miles from our house.

Just as I wanted to build the hut all by myself, the same idea held true for this new structure. Getting the lumber down to the site (which meant carrying it about 250 feet) was a chore. But not nearly as much of a chore as

setting the heavy boards in place on top of the sandbags.

The joists were set on top of the main wall with 24 inches between each joist. I would lift one end of a joist to one side of the main wall using the step ladder and then move to the other side and set the other end.

As each joist was set in place I cut spacers and screwed them at 4 foot intervals between the joist to stabilize and strengthen the floor/ceiling. I intentionally left a slight slope in the deck to allow for water run off. It was slow work doing it all by myself, but I managed.

After all of the joists were in place (including a small floor built over the top of the west room), I was ready to fill more sandbags and place them between each of the joists. At this point I had excavated all of the sand I could from that site. It was time to either buy a load of sand or find another place to dig a hole.

I decided to start digging a new hole about 50 feet away. When I made the decision, I was thinking the new hole could become the location for another small dome like the Hut. But that idea was dropped once I realized a new dome would block the view of the lake from our backyard behind our house. I began digging the new hole without a clear idea of what it would become. I just knew I needed more sand and digging a new hole solved the problem.

Rather than carrying the bags one by one to the site and then up the stairs, I used a wheelbarrow and carried three bags at a time to the edge of the stairs. Then I

carried the bags one by one up the stairs and placed them in between the joist and tamped them down. Since I used 2 x 10 inch joists, it took two rows of bags in between the joists to reach the top of the joists.




With all of the floor joists in place in July of 2013, I put a tarp over the joist giving the lower portion protection from the rain. At this point - it was time to begin to enjoy the fruits of my new labor.

From this point forward, now that I had a spacious dry area, I would commit to spending at least one night a month in my sandbag world. Being in nature always recharges my batteries. I could spend a night down by the lake and be completely renewed and ready to take on the world.

Now that I had a larger space to set up a cot and be out of the elements, I wanted to begin using it for monthly retreats. On July 29th (just 26 days after discovering the huge collapse of the main wall), I spent my first night in a new sandbag structure that I would later officially name … The Cave.

Next, I began building sandbag steps from the throne deck to the higher level of the joists. I put one sheet of plywood on the new joists. I put a chair on the plywood

allowing me to sit in and enjoy the view from the new height (about 4 feet higher than the throne deck) looking out over the lake.

By September (remember the collapse had happened in early July), I was ready for decking to go on top of the floor joists. Adding the floor joists had given the lower main walls even greater stability. I was absolutely certain there was no way the main walls would collapse now.

I used 4x8 foot sheets of insulation board to cover the top of the joists. On top of the insulation, I screwed 4x8 foot sheets of .75 inch thick treated plywood. After all of the plywood was on, I felt like I was standing on a strong, sturdy stage high above the surrounding woods. I knew I had made a good choice with the redesign of the doorway after the collapse. I knew the lower portion was as solid and sturdy as the solid ground that supported it.

Once the decking was on the upper floor, one of my favorite pastimes was to sit in a chair on the deck and look out on the lake from a much higher perspective than the throne deck. It was very satisfying to know this new view was made possible by my own two hands and over a thousand bags of sand.

Next it was time to address the floor for the lower portion. We had some old 18x18 inch square concrete pavers from a patio that used to be in our backyard. Using the wheelbarrow I hauled them to the lower portion of my structure and began laying pavers and leveling them.

Since I was using square pavers in a round space I had to cut some of them diagonally in half as well as use smaller 12 inch pavers in some spots. It still left small gaps between the floor and the walls, but that allowed for potential water run off if needed.

I put pavers in the main room of the lower floor as well as in both of the smaller rooms (the north and west rooms). Although I like having a dirt floor in the hut, I have to admit walking on pavers rather than sand made a big difference.





After laying the pavers I began painting the floor joists. I had used treated lumber for the floor joists, but wanted to paint them for addition protection. Painting was a slow process because of the spacers in between each joist. I painted what I could with a roller, but much of it had to be painted with a brush.

After the floor joists were painted I used can foam to seal any cracks or holes between the sandbags. I wanted to make this space as airtight as possible, with the only air flow coming through the pvc pipes that I could control by covering the caps. By sealing any gaps between the packed sandbags I was hoping to keep the insect population to a minimum.

I stapled two sections of screen wire to the main triple beam over the entrance. I overlapped the two sections of screen wire by 2 inches in the middle, which minimized any open gaps, but allowed me to easily go between the two sections of screen.

It was around this time that I decided to officially call the lower portion “The Cave”. By using inverted angles to shape the main opening and with most of the lower room below ground level, once the screen was hung over the main doorway, it looked a lot like a cave opening to me.

Combine the entrance and the cool dampness inside from being below ground level and the name “Cave” seemed very appropriate.





I remember spending my first night in the Cave. The temperature was constant (especially in the smaller rooms that had smaller doorways). I slept on a folding cot. Since it was summer, I did not worry about covering inverted angles doorway (except for making sure the screen was closed to keep mosquitoes out). I had solar lanterns, but chose to use candles for lighting, and enjoyed seeing dancing shadows from the candle light on the Cave walls.

Before bedtime, I sat in a folding chair listening to music while watching the shadows on the round inside walls made from one thousand sandbags. There was no doubt about it - this was a spacious, luxurious place and I had much, much more room in the Cave than I did in the Hut.

I had a peaceful sleep on my first night in the Cave. It felt good knowing I had laid each of the sandbags around me. Yes, it was a lot of work. And yes, there had been some major setbacks. But I was confident my failures had morphed the Cave into an even stronger structure, not to mention giving me more experience on what not to do when building with sandbags (such as removing forms too early). I had a lot of confidence in the cave. It was not going anywhere.

I slept well that first night and remember waking up and experiencing a brief moment of wondering where I was. I stared up at the joists above me and thought - this is not our bedroom. As soon as my eyes found the sandbag walls below the floor joists, I knew exactly where I was.

I loved my Hut and knew it would always provide a special place for me, but the Cave allowed me much more room and meant I could have company join me inside a structure made with my own two hands and some sandbags.

The second time I spent the night in the Cave, I used two of the pvc vent pipes for a hammock. I have always enjoyed hammocks. I regularly used a fish net

hammock that I have owned for more than 30 years. As I began to ask just what does a person need to have a good quality of life, one of the first things to address was a good place to sleep. Hammocks are a good solution for me.

While surfing the internet one day, I discovered breathable nylon hammocks. I ordered one and fell in love with it. The nylon hammock was much more comfortable than my older fish net hammock (which always left marks on me after laying on it for any length of time). The nylon hammock left no marks and was also lightweight. It allows airflow to keep me cool even on summer nights.

My second night in the Cave (a month after my first night) I found two trees on the outside of the Cave that lined up well with two of the 4 inch pvc vent pipes directly across from one another in the Cave walls. I hung hammock tree straps around the trees and fed the other end of the straps through the pvc pipes and inside the Cave walls. Using the hammock carabiners I secured the hammock to the tree straps and had a quick and comfortable place to sleep for the night.



What a great idea! Even though it had not been planned, the hammock inside the cave became one of my favorite spots to spend the night as well as to enjoy an afternoon nap after reading my Kindle.

Have I mentioned how much I love my Kindle? I tried multiple ebook readers over the years, including a makeshift reader I made myself with my first Palm Pilot. Digital books just made more sense to me on so many levels. My reading list at any one time usually includes books on particle physics, cosmology, biology, programming, artificial intelligence, evolutionary biology, skepticism, human thinking and development, astronomy, nature, the insect world, the life of plants, … well the list is long and varied. Suffice it to say, I like to have multiple books on different topics at my fingertips to read.

Amazon's Kindle quickly became one of my necessities in life. After receiving my first Kindle, I found myself using paper books less and less. My interests fluctuate from day to day. It is not unusual for me to be reading half a dozen different books at one time. And I often re-read books from some of my favorite authors like John Horgan, Lee Smolin, Lawrence Krauss, Andrew Thomas, Leonard Mlodinow, Michael Shermer, and EO Wilson

The Kindle allowed me to have dozens of books with me at one time and even kept track of my reading spot when I switched between books or from my Kindle to my phone or to my computer. The combination of my

Kindle and the hammock (especially since the hammock included a bag that easily stores the Kindle on the side of the hammock when I drifted off to sleep) became one of my … necessities in life.

To enjoy a hammock and my Kindle inside the cool, comfortable temperature of the Cave (made with my own two hands) was one of my great joys in life.

I began to envision just what it would take if I wanted to live in the Cave full time. I built shelves using the floor joists to store things like candles, solar lanterns, flashlights, dishes, water bottles, and lighters.

I installed hooks from the joists to hang life jackets, paddles, and a spare cot. Since the Cave was now dry and protected from rain, it also became a storage area for shovels, my pickaxe, and other tools (and of course - empty sandbags).

I put a shower curtain over the north room arched doorway and put a small compost bucket with a toilet seat inside the room. I put a garbage bag inside the bucket and used cat litter to contain odors. The shower curtain over the arched doorway of the north room allows a person some privacy, especially if there are other people in the Cave.

I also used some of the pvc pipes that were embedded in the walls between rows of bags and capped on both ends for storage. I had a propane gas heater and a gas stove for cooking. I filled a large water cooler from a faucet in our backyard with water for cooking and drinking.

Yes, I could not only comfortably spend a night (or several nights for that matter) in the Cave, if ever necessary, I knew I could actually live in the Cave.

With the lower part of my sandbag structure complete, it was time to move to the top portion above the Cave. I caulked the gaps between the joints of the decking on the upper floor to further seal the space and then put two coats of grey paint on the decking.

Once the upper deck was sealed and painted, I decided to take a break. The Cave took just over 1,000 sandbags and nearly a year to build. I thought a break was warranted, plus I was not exactly sure what the upper section would look like. If I continued with my original plan of a dome, it would be extremely high. After the collapse, I was a little leary of having another failure and the idea of going a lot higher made me even more nervous.

Throughout the time while building the Cave, I would often just sit and look at my project. Part of that was admiration for what one person could do with some dirt and sandbags. But another critical part was thinking about what the next steps would be. Since I did not have a formal set of plans, thinking about the next step and imagining what I expected it to look like, helped me know what to do on my next work day.

It was not unusual for me to sit and stare at the Cave from one perspective and then move my chair inside or to another location outside to try and capture a better vision in my mind of what it might become.



I enjoyed sitting on top of the Cave and sipping hot tea and watching the morning sunrise. Here I was even higher off the ground than the sandbag throne deck I had enjoyed for years looking out over the lake, enjoying a tremendous view.

Many times I played my bamboo flute in between listening to the early morning sounds of birds starting their day while sipping hot tea with the early morning sunshine in my face.

There was something that had compelled me to build my sandbag structures (the Hut, the decks, the root cellar, and the Cave). The Cave seemed to be the culmination. Not only did I come to prefer spending my time in the Cave, but I also enjoyed knowing most of the Cave was below ground level, which meant temperatures would remain constant. It also meant, I did not have to worry about protecting the sandbags

below ground because they were not exposed to UV light from the sun.

Perhaps even more than enjoying the satisfaction of spending time in the Cave, was my commitment to regular monthly retreats. By deciding to spend at least one night a month down by the lake, I discovered a way to help me cope with the increasing stress from the demands of my job as well as the increasing tugs for my attention from the internet.

Over the years, I had camped down by the lake many, many times. But committing to at least one night a month in nature or in one of my sandbag creations (some nights I slept in an Army cot tent on one of my sandbag decks or in a hammock by the lake) - I was able to recharge my internal batteries regularly.

I have always thought a little hard physical work does wonders to clear the mind. Swinging a hammer on a Habitat house or filling sandbags went a long way toward allowing me to let go of accumulated stress from my work week.

Having a 665 acre lake in our backyard, also helped me to let go of the constant chatter in my head. I loved kayaking out to the middle of the lake (especially when the lake was still and calm) and just - sitting. Sometimes I would play my flute. Other times I might read a book. But more often than not, I just enjoyed sitting and drifting on the lake.

There was something about being surrounded by nature that always seems to soothe me. I am fascinated with

… life. I gaze up into the stars at night with great wonder. Our sun is such a very, very small part of a vast solar system that in itself is such a small part of our galaxy (which is one of billions of galaxies - each containing billions of stars/suns).

I look at an ant colony with great curiosity for long stretches of time, with sheer amazement that they can be so organized and effective using a few simple rules hardwired in their DNA. Spider webs fascinate me as do migrating fish, monarch butterflies flying home to Mexico every four generations, beavers, turtles, … the list goes on and on. When spending time in nature, I am in constant awe and wonder. Nature always stirs my sense of amazement with this thing called - life.

So my monthly retreats to the Cave became a time of peace, renewal, and anticipation. I had my own little resort right there in our backyard. Who could ask for anything more?

Even though the collapse had crushed my spirit, it was only temporary. Having the Cave completed, stable, and usable, renewed my confidence and allowed me to begin planning my next sandbag project, the second story that would sit on top of the Cave.

Chapter 7

Food

"Health is the greatest possession. Contentment is the greatest treasure."
Lao Tzu

With the Cave completed I had much more storage space to keep things out of the weather. I built a few shelves inside the Cave primarily to store tools and food. I had a makeshift kitchen in the Cave that allowed me to prepare food even if it was pouring down rain. That was something I did not have with the Hut.

About a year after the Cave was completed, my adult nephew, Korey and two of his friends (along with their beautiful full grown German Shepherd) spent the night with me. We were confined to the Cave most of the night and the next morning because of heavy rain.

We had plenty of room to sleep (I slept in the west room and the three of them slept in the main room). We also had plenty of room for me to make them all breakfast the next morning without leaving the Cave. It was still raining, but inside the Cave, we enjoyed a breakfast of scrambled eggs and oatmeal even with the heavy rains falling outside.

There was much more room in the Cave than what I had in the Hut. I was able to store and prepare food in this new structure made primarily from sandbags. Food was very important in the choices I made and a big part of simple living.

Practicing subtraction put a bright spotlight on the food I ate. One of my priorities in life is to be as healthy as possible, but I also want simplicity, convenience, and low food costs. The food we eat plays a significant role in our health. Soon after building the Hut, I made a goal of finding healthy food that was easy to store, prepare, and economical (and I also wanted it to taste good).

I was attracted to the idea of eating primarily whole foods as a way to eat healthy. By purchasing whole foods in bulk, I was able to save money as well as trips to the store. In fact, I am able to eliminate most trips to the store by now buying much of my food online.

When I began buying in bulk, I joined a local group that ordered a truck load of food every three months. We would all meet at a designated spot - usually a big parking lot (we were meeting a large tractor trailer truck) to receive the food we had ordered. As the truck was unloaded (most of the orders were in 6 gallon food grade buckets), each family retrieved their items and loaded them into their vehicle.

Over the years it became easier to buy online and have it shipped directly to our house, so I no longer use the local group. I take advantage of farmers markets when they are open. When we travel to larger cities where there is a food cooperative, we like to stop sometimes and purchase food. But the majority of my food is now purchased online.

Kathy's job often required her to work evenings. Since I was home alone most evenings and only cooking for myself, I could freely change what I ate. As I began to

simplify my life, I also simplified my meals (and the cost of meals).

I asked myself, just how much does a person have to spend on food. I wondered if I could eat my meals for less than one dollar a meal. I discovered, I could. By buying whole foods rather than processed foods and by buying food in bulk, I could significantly reduce my food costs.

Another goal for my food choices was to avoid anything requiring refrigeration. This led me to exploring (and falling in love) with dehydrated foods. I could purchase dehydrated foods in bulk online and store them for years at room temperature. A few years ago, I received a dehydrator as a Christmas gift from our friend Erica. I still purchase some dehydrated foods, but now I also dehydrate foods from the store, farmers markets, and our garden. The primary foods I dehydrate are mushrooms, apples, bananas, spinach, and tomatoes.

While not as nutritious as fresh food, dehydrated foods are pretty close and rival the nutritional value of frozen food without the cost of a freezer. Dehydrated foods are much more nutritional than canned foods which often have high amounts of sodium and preservatives. And dehydrated foods are easy to store and prepare meals. Most meals are prepared by adding water and heating.

I settled on oats for my daily morning breakfast. Oatmeal is easy to prepare, inexpensive, and nutritious, especially when adding chia seeds and ground flax seed. I add one tablespoon of raisins to one cup of

cooked oats and two tablespoons of chia seeds and ground flax seed every morning for breakfast.

When I began exploring the idea of eating meals for a dollar, for lunch I decided to make my own peanut butter and whole wheat flat bread. That was my normal lunch for many years and kept my lunches at less than one dollar. It is still on my menu for an occasional meal, but it is no longer my daily lunch.

When examining my evening meal choices, I soon discovered how challenging it was to keep my meals below one dollar and still have meat. About the only affordable meat options were hotdogs, canned salmon, tuna, or chicken. I reasoned, I was not far from being a vegetarian and decided to cut out meat completely.

I did not like the practices of factory farming. By letting go of meat, I no longer supported such practices, which was easier on my conscience. Plus meat storage can be an issue, especially when I was trying to avoid refrigeration.

I readily acknowledge nature has some harsh rules where all creatures must eat other creatures to survive. Fortunately we humans are now at the top of the food chain, so we no longer have to be in constant fear of being attacked, but most animals have to fight to survive from day to day.

One of my favorite works of fiction is “The Sea-Wolf” by Jack London. One of the main characters, Wolf Larsen says, *"It is like yeast, a ferment, a thing that moves and may move for a minute, an hour, a year, or a hundred*

years, but that in the end will cease to move. The big eat the little that they may continue to move, the strong eat the weak that they may retain their strength. The lucky eat the most and move the longest, that is all." I know the "laws of the jungle", the laws of survival are harsh. I did not stop eating meat because I thought we have evolved to a place where we were above the laws of nature.

And I did not let go of meat because I thought it was bad for my health. In fact it was just the opposite in my mind. Since my goal was to be healthy, I was concerned about removing meat. Meat is one of our best sources of protein and other nutrients (but it can also be an expensive source). I think it is much easier to be healthy by eating meat than it is to be healthy as a vegetarian. I have to pay much more attention to what I eat if I want to remain healthy.

When I first became a vegetarian, I decided to record my daily protein intake to be certain I was receiving enough protein. I also recorded total calories consumed, carbs, vitamins, and costs.

After a year, I had my doctor do a complete blood work up to check for any deficiencies, including iron. A year after letting go of meat, the numbers from the blood work looked great and I felt like I was maintaining my energy levels (I was riding a bicycle 10 miles a day both before and after and felt no different).

I was able to create a menu without meat that I believed was healthy, convenient, and less than a dollar a meal (see appendix for menus).

Here is a riddle (taken from a website I can no longer find)**:**

What will:

- grow in any climate at any time of the year
- requires neither soil or sunshine, but is still rich in vitamins and minerals
- has not been subject to chemical sprays while growing
- is extremely economical and in preparation has no waste
- rivals meat in nutritive value
- can be grown indoors within a minimum amount of space
- multiplies 400% or more in 5 days
- matures in 3-5 days ... ?

The answer ... <u>sprouts!</u>

I have been growing sprouts since 2005. I usually eat them raw each morning before having my morning oatmeal. It gives me a sense of satisfaction to know I grow some of my food year round (even though it is a very small amount).

Most years we have a small garden, but even with dehydrating surplus from the garden it is still very seasonal. With sprouts I grow new plants from seeds every week, even in the winter.



While I was able to keep my meals at less than a dollar per meal, I use snacks such as soy nuts to make sure I receive enough protein in a day. With the additional costs of snacks the goal was to try to keep my total daily food costs around five dollars a day.

I focussed on whole foods and preparing all that I eat, as much as possible from whole foods, including using a hand grinder to grind my own whole wheat flour and rice flour. I even found an attachment for my hand grinder that allows me to grind beans into a flour that can be added to soups and other dishes.





I created a spreadsheet to track the costs and nutritional value of all of my meals. As a vegetarian, I wanted to be confident I was eating healthy while still eating for less than one dollar a meal.

For years I have kept my oats in a six gallon food grade bucket with a screw on air tight gamma lid. A six gallon bucket of oats lasts about 6 months. I also have buckets for brown rice, wheat, black beans, pinto beans, kidney beans, and a mix of beans.



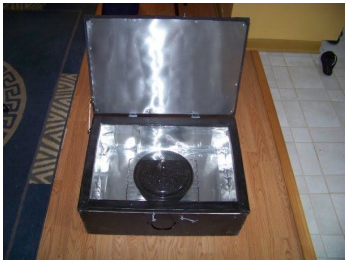
The above photo shows the bulk of what I eat - oats, ground flax seed, chia seeds, soy nuts, mixed nuts, sunflower seeds, peanuts, dehydrated veggies (kidney beans, green beans, onions, tomatoes, celery, and zucchini), dehydrated mushrooms, more dehydrated veggies for veggie burgers (carrots, peas, green bell peppers, parsley, onions, tomatoes, celery, and green beans), brown rice, pinto beans, bean mix, and popcorn. For years I have kept food in old peanut butter jars for convenience and easy storage. I fill them from the six gallon buckets or containers purchased from the store when needed.

Once the Cave was completed, I had more storage room. Since I was spending nights in the Cave, I wanted simple meals that did not require refrigeration or

electricity to prepare. It was around this time, I discovered - solar cooking.

To rehydrate food, it only takes water, but if you add boiling water, your meal is essentially prepared once the food sits long enough to rehydrate. Boiling water is easy in a solar cooker. But a solar cooker can be used for much, much more. Any meal that can be cooked in an oven or in a crock pot can be cooked in a solar cooker (although it may take a little more time).

I started with a homemade solar cooker I made from cardboard and tin foil. For my next birthday, Kathy made me a beautiful double lidded wooden solar cooker. A couple of years ago, I found great portable solar cooker that can easily be folded and transported.





There are many online resources for both making solar cookers and recipes for how to prepare meals. One of the things I enjoy about solar cooking was being able to put a pan of brown rice in the solar cooker in the morning and retrieve it late in the afternoon with it still hot and not worrying about it over cooking or burning. It may be my imagination, but brown rice seems … fluffier when I cook it with sunshine.

On rainy days, I have a couple of ways to cook using a camping stove my sister, Tammy gave me that can boil water in less than 5 minutes using only small twigs. I also keep a propane gas stove in the cave.

My primary source for water is from our house. I do not have a separate water line in my sandbag world. I use a 2 gallon water jug for fresh drinking water that I fill from our house water. However we are close enough to a county park for me to get water there if I needed to. I also keep several water filters that would allow me to use fresh lake water if needed.

Kathy retired in 2006. She is not a vegetarian and we agreed it would be easiest if we both prepared our own meals. There are exceptions. She has several delicious vegetarian recipes she likes to make now and then. And when we go kayaking on the river, she always makes delicious spinach burgers for our lunch.

Kathy and I have a date night at least once a month where we always go out to eat. We also meet with my mother and my siblings once a month for a meal. And there are frequent family gatherings where I do not eat my normal meals, but 80% - 90% of the time my menu remains the same day in and day out during the weekdays.

My weekday routines are fairly consistent. I kayak for an hour each morning, followed by a short yoga routine, and then a five mile bike ride before enjoying breakfast. But on weekends there is no set routine. I may still take the kayak out but only for short trips or to watch the

sunset. We like to kayak on local rivers or visit with our kids and grandchildren on weekends.

My menu is more flexible on weekends as well, I generally do oatmeal, but no snacks nor my weekday lunch and dinners. I like to roll with the flow on the weekends and that usually means preparing something like vegetarian Frito Pie, plain baked potato, vegetable soup, vegetarian chili, a delicious grilled veggie and cheese omelet Kathy makes for us, or whatever my creativity can come up with using primarily simple whole foods.

When asked if I get enough variety eating basically the same thing for breakfast, lunch, and snacks during the weekdays, I am able to show the wide variety of foods I eat (often in just a single day) which is usually a greater variety than what most people eat. Here is a daily sample:



I've read many, many food related books over the years (such as "The Omnivore's Dilemma", "Protein From Plants", "The China Study", "In Defence of Food", "The Gluten Lie", "Food Rules", "Real Food", "The China Study Solution", "The Case Against Sugar", …). Perhaps the best books (and for me best, means - backed by the most real science) was Nina Teicholz's "The Big Fat Surprise" published in 2014 and Dr. Aaron Carroll's "The Bad Food Bible" published in 2017.

Both of these books helped me to weed through the wide variety of nutritional studies (and opinions) and focus on the best data from real science. I used to love eating hard boiled eggs and cheese, but gave them up (except when we ate out) because of cholesterol concerns when I became a vegetarian.

After reading these books and exploring their research (as well as following Gary Taube's research), I now enjoy hard boiled eggs and cheese again. I stopped worrying about how much cholesterol they have. I reduced my carbohydrate intake from being over 50% of my daily calories to now being 25% - 30% (fat is now 50% of my daily calories - it was 25%). I am still a vegetarian, but now I pay far more attention to how much sugar and carbohydrates I eat.

Here is my current weekday menu with total costs, protein, carbs, and fat. Not much has changed over the years (other than having more calories from fat (from eggs and cheese) and almost eliminating refined carbohydrates and sugar).

	Cost		Calories	Protein	Carbs	Fat	Sugar
Weekday	$3.90	Avg per day ---->	1,872	96	124	115	12
Menus				20%	26%	54%	
	$19.52	Totals ---->	9,359	482	621	574	59
Mon	Cost	Meals	Calories	Protein	Carbs	Fat	Sugar
Breakfast	$0.76	oatmeal, chia seeds, ground flax seed, raisins	390	12	50	16	5
Lunch	$0.88	peanuts, 2 hard boiled eggs, cheese	716	43	10	59	2
Snacks	$1.07	sprouts, soy nuts, mixed nuts, mushroom jerky	326	18	17	22	2
Supper	$1.68	Veggie soup, cheese	283	19	12	18	2
	$4.39		1715	92	89	115	11
				21%	20%	59%	
Tues	Cost	Meals	Calories	Protein	Carbs	Fat	Sugar
Breakfast	$0.76	oatmeal, chia seeds, ground flax seed, raisins	390	12	50	16	5
Lunch	$0.88	peanuts, 2 hard boiled eggs, cheese	716	43	10	59	2
Snacks	$1.07	sprouts, soy nuts, mixed nuts, mushroom jerky	326	18	17	22	2
Supper	$1.37	refried beans and cheese	583	36	32	34	2

	$4.08		**2015**	**109**	**109**	**131**	**11**
				21%	21%	57%	
Wed	**Cost**	Meals	**Calories**	**Protein**	**Carbs**	**Fat**	**Sugar**
Breakfast	$0.76	oatmeal, chia seeds, ground flax seed, raisins	390	12	50	16	5
Lunch	$0.88	peanuts, 2 hard boiled eggs, cheese	716	43	10	59	2
Snacks	$1.07	sprouts, soy nuts, mixed nuts, mushroom jerky	326	18	17	22	2
Supper	$1.28	quinoa, spinach, tomatoes, garlic, and mushrooms	268	7	27	15	4
	$3.99		**1700**	**80**	**104**	**112**	**13**
				18%	24%	58%	
Thur	**Cost**	Meals	**Calories**	**Protein**	**Carbs**	**Fat**	**Sugar**
Breakfast	$0.76	oatmeal, chia seeds, ground flax seed, raisins	390	12	50	16	5
Lunch	$0.88	peanuts, 2 hard boiled eggs, cheese	716	43	10	59	2
Snacks	$1.07	sprouts, soy nuts, mixed nuts, mushroom jerky	326	18	17	22	2

Supper	$0.90	15 bean soup with tomatoes, cheese	485	31	45	19	5
	$3.61		**1917**	**104**	**122**	**116**	**14**
				21%	25%	54%	
Fri	**Cost**	Meals	**Calories**	**Protein**	**Carbs**	**Fat**	**Sugar**
Breakfast	$0.76	oatmeal, chia seeds, ground flax seed, raisins	390	12	50	16	5
Lunch	$0.88	peanuts, 2 hard boiled eggs, cheese	716	43	10	59	2
Snacks	$1.07	sprouts, soy nuts, mixed nuts, mushroom jerky	326	18	17	22	2
Supper	$0.74	brown rice and kidney beans	580	24	120	3	1
	$3.45		**2012**	**97**	**197**	**100**	**10**
				19%	38%	43%	

See appendix for more menus and recipes

I make my own peanut butter (although there are times when I buy it). For bread, I make my own cornmeal buns (maybe more like flat bread), which is usually eaten on weekends when I have a homemade black bean or homemade veggie burger. When my body

craves sugar (which might be once a week or so), I have dehydrated apples, dehydrated bananas, raisins, or prunes to snack on.

One of my snacks is mushroom jerky that Kathy and I make from portabella mushrooms. I also make peanut butter oat balls now and then or I make organic popcorn (not prepackaged) that I pop in a paper bag with a little olive oil as an occasional snack.

My primary beverage is water. I love drinking water and usually drink a gallon a day. I also have one or two cups of hot yaupon tea in the mornings. I enjoy a glass of hard apple cider once a week and a few beers during the week. I stopped drinking sodas in 1999 and stopped coffee and milk 5 years later.

I regularly have my iron levels checked when I donate blood. I take my blood pressure multiple times a month. I am 5' 8" and weigh 155 lbs. Here are my most recent statistics from fasting blood work in 2018:

Total Cholesterol	174
LDL	78
HDL	83
Triglycerides	63
Glucose	95

See appendix for historical data

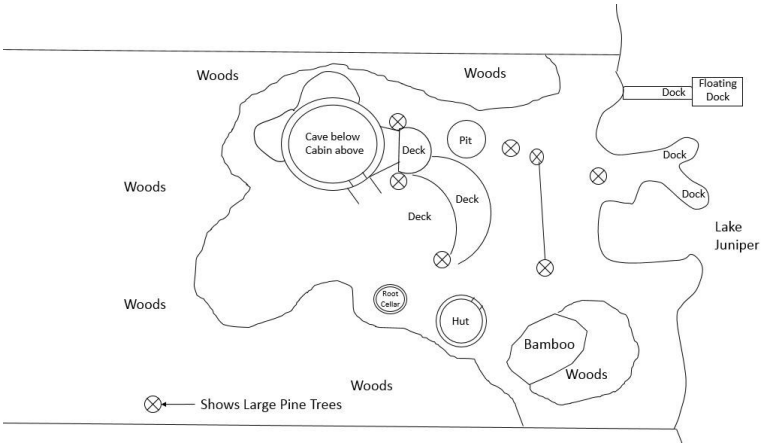
More important than the numbers, to me at least, is paying attention what my body might be telling me in the way of energy levels and cravings, and then satisfying those cravings with healthy whole foods.

Adopting a simple lifestyle is greatly impacted by our food choices. My food goals of eating healthy, delicious, convenient, and affordable food has helped me keep life simple, including what I eat, how I prepare food, and how food is purchased.

While I enjoyed the Cave and the additional space it provided, especially the additional space for food, I knew it was time to begin working on the top of the Cave. I was getting the itch to start filling sandbags again even though I was not sure what the next structure might look like.

Chapter 8

The Cabin



In January of 2015 I began filling sandbags for the upper structure. After completing the Cave, I knew the upper section would be independent from the Cave and could only be accessed via the stairs from the throne deck, but I was not clear on what kind of structure it would be. My original vision was to build a large dome for the upper portion.

The more I thought about building a dome, the less I liked it. For one thing the top would be at least 30 feet above the ground (perhaps even more). Also, I really wanted to be able to look out over the lake from the upper floor, yet I did not have a lot of experience with windows in a dome structure. Recalling the collapse from the previous summer on the Cave walls, I wanted to be sure whatever I did on the upper portion would be strong and stable.

I began to think about having a traditional wood framed wall with a door and window facing out over the lake. Once that idea surfaced, I also thought it would be nice to have space for a porch that would face the lake. Since the upper section would be facing the morning sunrise 8 months out of the year, I convinced myself a porch and a door and window facing the lake was the best design.

Once that was settled, I began to think about the rest of the structure. I considered a completely wood framed cabin with no sandbags, but my love for building with sandbags quickly ruled out that idea.

But if I was going to build with sandbags and include a door, window, and porch how could I use sandbags for the rest of the structure? It was the shape of a circle that gave the Hut and the Cave their strength. I did not want to let go of the idea of a circular wall for the sandbag.

Finally I reasoned, I could combine the two by making the walls into a semi circle that butted up to a wooden framed wall and could have a porch and window facing the lake. I could use a small porch to watch the morning sunrise.

Since I had no way to interlock the semi circle wall of sandbags to the wooden wall, I came up with the idea of strengthening the semi circle wall by using two rows of sandbags for the walls. If I laid one row of double sandbags (laid side by side) for the walls and then laid the double side by side bags on the next row above it perpendicular to the direction from the row below, it

would create a stable, free standing double sandbag wall.

The more I thought about having an open porch on the second floor, the more I liked the idea. It would take away inside space, but it was worth it. As long as I had enough room inside to cook, sleep, and relax - that was enough. Being able to enjoy the view of the lake from a porch was too tempting not to do it.

One of my favorite pastimes was to sit on the new floor above the Cave and watch the morning sunrise while sipping hot yaupon tea (made with yaupon leaves growing wild in our backyard). Many times I sat there, and grinned knowing I was sitting on a wall made from sand.

Even though we had lived in the same house for over 30 years, I had never enjoyed a view of the lake from so high off the ground. It was a new perspective. It gave me a great sense of satisfaction - knowing I had filled each of the 1,000 bags myself and could now enjoy this new view perched so high above the ground.

Sometimes life can take on an entirely different meaning if we just change our perspective. We can become trapped by clinging to one version of our circumstances to the point of no longer being able to see the bigger picture. We become imprisoned by things we think are important or that seem inescapable. But simply changing our perspective and looking at things differently, can bring immediate freedom.

Building the walls for the second story was much slower than working on the Cave. The area where I was digging a hole and filling bags was about 75 feet away. I used a wheelbarrow and loaded three bags at a time and took them to the steps leading up to the throne deck and then to the floor above the Cave. The extra steps took much more time. Plus building the walls of the semicircle using two sandbags side by side, instead of one sandbag took twice as long.





Progress was slow, but steady. I only worked on weekends, but tried to fill some bags at least once a week. As the walls began to rise above the floor that covered the Cave, I began to have a vision for what the inside would look like.

There was a small section of floor over the top of the west room from the Cave. I used this area to create a second semicircle of sandbags interlocking with the main walls of the bigger semicircle. Since it was so small (about 4 foot inside diameter) and interlocked with the main walls, I did not use a double row of bags for the walls.





I envisioned the small room to be something like a storage room. I could put a curtain over it and keep bedding and fold up tables and chairs inside. I saw the rest of the area as livable space for sleeping, cooking, reading, or maybe even an area to make bamboo flutes (something I had taught myself to do 6 years earlier).

Even though there would be a front door and window, I decided to place 3 inch pvc pipes about 5 feet above the floor and about 2 feet apart from each other in between rows of sandbags. The pipes would serve as small windows and for ventilation.

I used a pvc coupler and glued screen wire in the middle to cover the inside of the pipes to keep insects out. The screen was not glued to the pipe. This allows me to remove the screen and replace it with a regular cap in the winter time to help keep cold air out.

Once the walls were about 7 feet high, it was time to frame the wooded front wall. For the door, I used a wooden screen door rather than a conventional exterior door. Even though we might have a dozen nights during the winter where temperatures would get below freezing, most of the year it was warm and I thought the

screen door would be better. I could always tape plastic over the screen door in the winter.

Once I knew the opening for the door and window, I built the wall. The wall was built between the two ends of the semicircle main sandbag wall. I used 4x4 inch treated posts anchored to the floor at either end of the wall. I built a beam on top of the 4x4's and spanning the top of the sandbag walls.





I used plywood to cover the studs on the outside of the wall and then added the small 3 foot by 3 foot window I purchased from a local hardware store.

Now it was time for rafters. I used metal hangers attached to the beam on top of the wooden wall to hold one end of the 2x6 inch rafters. On the other end I placed a 4x8 foot piece of .75 inch treated decking over the smaller semicircle room. On top of that I laid a horizontal treated 4x4 that spanned the sandbag walls and set the other end of the rafters on that 4x4.

On the other side of the beam I built small rafters for a 2 foot overhang above the door and window over the porch. This would allow enough room to sit outside on the porch even when it was raining.

Once the rafters were set, I added roofing decking, felt, and shingles for a traditional roof. I also installed gutters on both ends to drain water away from what I now began to call “the Cabin”. After installing the door and window and painting the exterior wall, when I stood near the edge of the lake and looked back at this structure, it looked like a small cabin in the woods.





The portion of the sandbag walls that was not used to support the roof were used as shelving by adding painted 1x8’s along the top of the sandbags. Above the shelves, I added plywood between the shelves and the trusses, blocking the air gap between them. On the four corners of the roof I left openings and covered them with screen wire to provide additional ventilation.

I caulked around the door and window and along the back of the Cabin where the wood decking sat on top of the sandbags, as well as the shelving that was on top of the sandbags. For larger spaces such as where the wooded wall butted up to the sandbag walls and some of the spaces around the pvc pipes, I used a spray foam to fill in the gaps.

I loved having a hammock in the Cave so much, that I installed a heavy duty eye bolt in one of the 4x4 posts of

the edge of the wooden wall. Directly across from it at a diagonal was one of the pvc openings. I ran a tree strap through the pvc pipe and attached it to a tree outside. I was able to stretch a hammock from the tree strap to the eye bolt and have a comfortable place to sleep.



I used 2x4's to build a frame for a bench on the north end of the Cabin and covered it with .75 inch plywood. An air mattress could be put on top of the bench for sleeping, but the bench could also be used for seating and for a table for things like cooking and keeping a water cooler.

I purchased plastic totes that could be stored under the bench for things like dishes, tools, toilet paper, rope, and an extra hammock. I also purchased another propane heater and camping stove for cooking. A folding cot was added along with two collapsible chairs.

With the two chairs and the bench, 4 people can comfortably sit inside the Cabin and visit. The chairs can also be moved to the front porch for a nice view of the lake and morning sunrise.

By putting an air mattress on the wooden bench and unfolding the cot, (kept in the storage area when not in use) and then stretching out the hammock, 3 people can comfortably sleep in the Cabin.





Once the Cabin was painted and furnished, I took another break from any new sandbag projects and enjoyed my little Cabin in the woods. It quickly became my favorite place to be during a heavy rain because of the wonderful view of the lake.

I remember the first night I spent in the Cabin and sleeping in the hammock. I had stayed up late the night before, listening to music. I slept in late the next morning. The sun was already just above the treetops, on the other side of the lake, when I opened my eyes. My head was in just the right spot in the hammock to be bathed in the orange glow of the early morning sun shining through the screen door.

Waking up and seeing the sunrise over the lake without moving my head made me feel like I was still in some kind of dream. What a great way to begin a new day - I remember thinking and then asking myself - what more could a person want?

I enjoyed the appearance of my little Cabin when out on the lake in my kayak or paddle boat. It sits high above the ground supported primarily by sand. I wondered what the occasional fishermen or kayakers thought when they ventured into our small (12 acre) section of the lake and saw the Cabin and the Hut and all of the sandbags.



Both the Cabin and the Hut blend in well with the surrounding forest. Combined with the sandbag decks makes the entire area seem like it was planned project, but it was in fact only planned from one work day to the next. Taken together, all of the individual projects blend

into a balanced whole, but I cannot say it was planned that way.

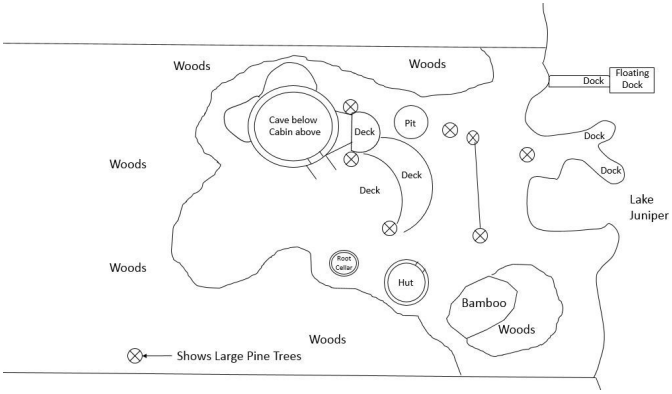
Shelter was on my list of requirements for a good quality of life, but it did not have to be conventional shelter. Here I was able to fill a few sandbags and create this space in the woods on the shores of lake, that became one of my favorite places on earth. At anytime I could slip out into the lake in my kayak and return to my little sandbag world with a deep sense of peace and harmony.

Yes, that was it … harmony. My little space made me feel like I was in harmony with myself and the world around me. I felt at home in nature while spending time in this place. It was not long after completing the Cabin that I decided to name my little piece of heaven - Harmony.



Chapter 9

Docks and Patio



The slope of our property combined with frequent torrential Florida rains caused erosion problems near the shore of the lake. While working on the Cave, I decided sandbags could solve the erosion issues and began shoring up the edge of the shoreline with sandbags.

I soon realized I could also use sandbags to create small earth docks to make getting in and out of the kayak easier. While working on the Cave the County decided to drain the lake to allow crews to remove some of the stumps for more boat trails. With the lake's water level several feet below normal, it would be the perfect time to use sandbags to create an eco friendly earth dock.




On the far north end of our property I used a single row of sandbags laid side by side widthwise and parallel to the shoreline to create a 10 foot sandbag dock that jutted out into the water. This dock could be used for getting in and out of the paddle boat or kayak.




I have spent the night on this dock, sleeping in an army cot tent. It is a strange sensation to wake up in the morning and look out the window of the tent and see nothing but water.



While it did make getting in and out of the paddle boat easier (especially for our grandchildren) I wished it were wider and extended further into the lake. If it were I could put a chair on it and enjoy a nice view on the water.

That prompted me to build a floating dock at the end of the sandbag dock. I had a 55 gallon drum that I used for one end of the floating dock (the end furthest out in the lake) and I used the existing sandbag dock to support the other end.

The new floating dock was 4 feet wide and 8 feet long made from treated lumber. Technically only one end of the floating dock floats. I can easily pick up the non-floating end of the dock and pull the floating dock up on the sandbag dock if needed or even take it completely out of the water.

I could now take a beach chair or my zero gravity chair and sit out on the floating dock and enjoy the sunshine

while reading my Kindle. I also loved laying back in my zero gravity chair at night on the floating dock and looking up at a clear view of the stars. It was the perfect way to enjoy a moonrise over the lake or a meteor shower.





I purchased a solo stove as a way to quickly boil water using twigs gathered from dead branches in the woods. Instead of using the stove to cook or boil water, I discovered it was also a great way to have a small portable campfire. I set the stove on a couple of bricks on the end of the floating dock on a cold winter night and then sat in a chair by the fire with a 5 gallon bucket of precut sticks and twigs to keep the fire going.

I remember seeing the flames from the solo stove reflected off the calm surface of the lake. In the midst of the flame's reflections there were stars from the night sky glimmering on the lake surface, creating a surreal image of flames in the night sky. I tried to capture that image with a photograph, but the starlight could not be seen with my camera.

South of the floating dock, I used sandbags to make a Y shaped earth dock. Building the docks in the shape of a Y allows me (and guests) to easily get in and out of a

kayak. There is a sandy beach area between the ends of the dock that make it easy to beach the kayak when returning from the lake. It also makes it easy to enter the kayak and launch with little or no chance of tipping.

While the lake was drained, I dug a small 10 foot wide square area and used that material to build up the area used for the earth docks. Later, when they stopped draining the lake and refilled it, I used a pond rake to make a sandy bottom in that area. It is the perfect place to spend a hot summer afternoon sitting on a beach chair submerged in the water or lounging on a float in my own small lagoon.

In 2016, I decided to build a small patio near the edge of my small lagoon in the lake. I usually carried folding chairs and would sit near the lake. But when I was done, I would have to carry the folding chairs back to the Cave for storage.

I thought, if I built a small patio, I could use outdoor metal chairs maybe have a metal table between them. I bought 24 - 1 foot square concrete pavers and leveled a space 4 feet by 6 feet. I laid the pavers and made sure they were level.

After the patio was complete Kathy and I went to a bargain store and found two metal chairs and a matching table. It became the perfect setup to enjoy a cup of hot yaupon tea in the morning.

In the afternoons I clamp a small umbrella to the chair to provide shading from the sun. If I sit in the chair for any length of time, I use small foam cushions to provide

padding for additional comfort. The patio was a wonderful addition to my little world.

I love not taking chairs down to the edge of the lake. At night it is the perfect location to watch for fireflies and listen to frogs. While it was not made using any sandbags, it still blends in very well with the rest of the projects I've done.



Chapter 10

Things I Do Know

"To thine own self be true, and it must follow, as the night the day, thou canst not then be false to any man."
William Shakespeare

While there are many things I do not know (enough to write a chapter in this book), there are a few things that I do know with a high degree of certainty.

After showing my little sandbag world to others, a couple of people suggested I write a book about sandbags and my lifestyle. I quickly dismissed the idea. Who am I to write a book? But over time the idea began to "grow" on me. I thought, if nothing else, my grandchildren might be interested to learn more about the unique world they visit when spending time at grandpa's. And so, I set out to try and share what I have done by writing this book.

During the process of writing, a thought kept nagging at me saying - there are many more qualified people to write books about sandbags. In fact, there are some excellent books on earthbag construction that go into step by step detail covering all of the "do's and don'ts". There are also wonderful videos now available to teach people sound building techniques. So the question resurfaced - who am I to write a book?

As this book began to take shape, I realized, even though there are better books about sandbags, what I have done with sandbags is far more than just building a

sandbag structure. I felt like I could share some of the things I have done and how filling one sandbag at a time, eventually turned into my own little private resort. I could also share some of the lessons learned along the way like how I practiced subtracting things I knew I did not want and removing unwanted or unnecessary clutter (still working on that). We all have unique experiences, so maybe there is some value in sharing a few of the things … I do know, that at least work for me.

I remember reading a book on meditation while in my first year of college in the mid seventies. The book recommended using a personal mantra to prevent the mind from wandering while meditating. I came up with my own mantra. When meditating and focusing on my breathing in my college days, I used the word simple. With each breath inhaled, I internally said the first syllable (sim) and when exhaling I would finish the word with the second syllable (ple). I would repeat this over and over.

The idea and desire for simplicity has been part of my life for many years even though I often strayed from it, especially when Kathy and I started our family. Yet it was always there (including during my meditation times). Simplicity resurfaced in a big way around the time when I built the Hut. Simplicity has stood the test of time over the course of my life.

Around the time I took up meditation, I also ordered a set of custom dog tags from the back of a magazine (we were many, many years from the convenience of the internet in the 70's). I had the Latin phrase suum cuique

(to each his own) stamped on the dog tags and wore them proudly.

I found the phrase in the back of a paper dictionary along with dozens of other popular Latin phrases. That phrase struck a chord in me. Even though the phrase is primarily about justice and how people should get what they deserve - I embraced it as a motto of freedom. For me it meant everyone should be free to do as they pleased.

I was a firm believer in the power of love (for a simple definition, I used - love does no harm). So in my first year of college I adopted a rule of "to each his own - as long as it does not harm others" as my main philosophy of life (I was far from alone in adopting this attitude with many current and historical champions urging and living in freedom without harming others).

When I began the practice of subtraction, I found myself removing speculation about things (including ideas) I was not certain of. I wanted to let go and remove all notions that "might" be true and only hold on to those I "knew" to be true. Once the dust settled from the wrecking ball from that laborious process, I was left with 3 firm rules for life, that had stood the test of time for me:

1. **Primum non nocere (first do no harm).**
2. **Suum Cuique (to each his own)**
3. **Do not do unto others what you do not want done to yourself.**

I used a text to speech program to create an mp3 audio file of these three rules and put it on my web server, allowing me to listen to my rules on my phone each day or anytime I like. These three things I know, for me, must shape and influence any and all choices and directions in my life.

These simple rules, if practiced by more people could improve our world even more. I say “even more” because I think the time we live in is the best time in history. I am not only fortunate enough to be living in the age of the internet, but I also live during one of the best periods of humanity. Thanks to the internet alone, education is available to more people than ever. There is less violence world wide and people are healthier and living longer more now than ever before.

I’ve read Michael Shermer’s “The Moral Arc” and Steven Pinker’s “The Better Angels of Our Nature”. They both offer compelling evidence that - these are the best of times. I fully agree there has never been a better time to be a human being. Many people think and say just the opposite. It is easy to long for the “good ‘ole days” and fond memories while forgetting the many hardships the average person faced compared to today. We can get so wrapped up in the few negatives of modern living that we are blinded to the overwhelming positives.

The things I do know, are things that have worked for me. They may not be true or work for others. To each his own. Things like my three rules have stood the test of time (for me and others). There are also things I know that I have heard or learned from others that have proven true for me as well.

My friend Sinder is fond of saying “There’s a right and a wrong and you ought to know the difference”. That is in line with Jonathan Haidt’s book “The Righteous Mind” where he argues morality is not found in reason, but from instinct and innate sources. No doubt there are clear moral dilemmas that are challenging and can be viewed from opposite perspectives, but at a basic level most people do not need to be told it is wrong to steal from others. Deep inside, they … know it is wrong.

Sinder also says “ask yourself if the payoff is worth the price, if it is not, walk away”. That is not a bad set of criteria for anyone to follow. I found myself asking this over and over during my initial period of removing things in my life that were not wanted or not needed. Do I really want this? What will it really cost me? Was it worth the price?

I have read Henry David Thoreau’s “Walden” (something of a manual for self reliance) many times since my college days in the mid seventies. One of the ways he evaluates the cost of something is to ask how many hours of work will it require to pay for it? This remains a good litmus test for me today, when making decisions on what to purchase (or not to purchase). I avoid buying things that require many hours of work to purchase.

One of the things I absolutely love about Sinder (in addition to her ability to speak her mind and tell it like it is) is how she makes me (and others) laugh. Another thing I do know is - laughter is good medicine. It can cure what ails you and will help keep you healthy.

I have been fortunate to have Sinder (who has given me more belly laughs in 15 years than I had all the other years of my life combined) remind me of the value of laughter, but I have also been lucky enough to have a mother who has smiled and laughed all of her life.

Every memory I have of my mother is a memory of her laughing or smiling. She helped me to learn to not take things too seriously as well as to be able to laugh at myself. She has been a tremendous influence in my life (I will not go into how she treats everyone with love and respect and is one of the kindest people you would ever want to meet). One of the things I do know is the value of laughter, thanks to these two ladies.

We have frequent family gatherings with all four of our adult kids, their spouses, and our eight grandchildren (including an annual family camping trip at a beautiful state park on the Gulf of Mexico). I am very, very proud of our children. I always felt our biggest job as parents was to keep our children healthy and safe. We managed to do that. Now they are all married and well on their way with their individual journeys of life, not only healthy and safe, but in their own unique ways successful and happy.

From my grandparents, my siblings, our children all of the way to our grandchildren - there has always been a high importance placed on family. My four sisters, brother, half sister, and stepbrother have always maintained a strong sibling/family relationship, with laughter often being the cement that bonds us.

One of the things I enjoy doing at family gatherings, especially with our children and grandchildren, is to retreat to a corner some place and just listen to the conversations and … the laughter. Laughter (especially in large doses) warms the heart and creates bonds that can seldom be broken, which is something else I do know.

I also know - the value of freedom. I've regularly visited and written to prison inmates for many, many years. I think one of the hardest things to endure in life (other than maybe extremely poor health and constant pain) has to be long term incarceration.

Many times I am in Harmony and I think about those who do not have the freedom to enjoy living as they choose. To be locked away day after day, year after year robs a person not only of time, but also their dignity. I always try to keep my letters and visits on a positive note because so much of their existence is surrounded by feelings of defeat and loneliness. Sadly there are some people who are not incarcerated but are still in a prison of sorts because of addictions, relationships, finances, circumstances, or self imposed restrictions.

I am grateful for the freedom I have. It was my choice to fill sandbags and adopt simple living and I have had the freedom to do that. People who do not want to live simply, should also have the freedom to do that!

Kathy has encouraged me with my sandbag creations. She offers no resistance to the amount of time I spend down by the lake. Even though it is not "her thing" she

knows how much it means to me and gives me the freedom to hang out there as often as I like. She does come and visit and has even spent a night in the hut with me. She enjoys kayaking and camping with me when we travel, but if we are at home she tends to prefer the creature comforts of a regular kitchen, air conditioning, and indoor plumbing. To each his own. And she feels the same way towards me, for which I am thankful.

I am grateful for the freedom that comes from being born in the United States, although increasing regulations seem to restrict that freedom more and more each year. In looking back over my life - I have always had the freedom to come and go and do what I liked within the United States as I pleased (with only limited restrictions). For the most part we are free to pursue whatever path to happiness we like so long as it does not violate or restrict other people's freedoms or well being.

Yet, being born in a democracy does not ensure freedom. If you are chained by the economic slavery of massive debt (and as a nation that is more true now in the US than at any point in our history) can you really call yourself free?

Financial freedom translates into lifestyle freedoms. To choose lifestyles we cannot afford means we must go into debt. No matter what you might want to do, if you are restricted by financial debt, you are not completely free.

Good health, a good quality of life, and spending time with family are at the top of my priority list, but none of those things can really be fully achieved without freedom. I am talking about much more than political and financial freedom. Freedom and honesty in my thinking and opinions are also important to me.

One of the hardest things for me to do over the years, has been to be as honest with myself as possible. It is very easy to be influenced by other people or things I read or watch. Our brains have a way of spinning things that can be downright deceptive. If I do not keep my skeptical guard up, I easily fall into beliefs, choices, and opinions that come from sources I cannot always trust (sometimes including my own default way I look at things and people).

In several of Michael Shermer's books he points out our cognitive biases, such as our confirmation bias, where we tend to favor information that supports our beliefs and opinions. I have to pay close attention to the hindsight bias, described by Ralph Lewis in "Finding Purpose in a Godless World" as "the inclination to see an event as having been meaningful or predictable after it has occurred". It is too easy for me to look at the past and give it more meaning than it actually warrants.

If left on autopilot, we are prone to be influenced by many of these biases without realizing they could be wrong (often providing our minds with inaccurate information). It can take a lot of hard introspective work, to honestly examine my biases, current beliefs, opinions, choices, and habits. A good dose of skepticism is helpful, along with disciplined, critical

thinking skills. Ultimately, it is my love for freedom (for me, that means - suum cuique - to each his own) that motivates me to be as brutally honest with myself as possible. I want to break any chains that keep me from being free, and being as true to myself as possible.

I do not plan to ramble on and on about the things I do know that have worked for me. I think that is what the bulk of this book is about. Since I had a chapter about the things I don't know, I felt it only right to balance it with a few things that I do know, from my experiences.

Perhaps the one thing that I do know, that actually started the process of filling sandbags is - the importance of listening to the still small voice within.

I did not have a clear understanding of just why I wanted to make a sandbag dome or what the final vision might look like, but I was clear in the prompting to do it. I was … compelled to make a sandbag dome from the promptings of an inner voice.

Many times in my life I have had a strong sense to make a particular choice, or go a specific direction (not always with a clear understanding of the reasons). Nor was I always able to articulate that sense with words. Sometimes it was just a sense that something "felt" right or "seemed" right.

Over the years I have found that when I "listen" to that "sense" or prompting, it turns out to be a better choice than if I had I not listened. Over time I learned to block out the many voices that often fill my head with constant, sometimes idle, chatter (our brain's way of

trying to dominate our attention and evaluate options). I have a mental model I call MIA (Managing Internal Awareness - see appendix) I use to help focus my attention. When I become quiet, which is more than just the absence of noise - I am able to let go of the mental chatter by focusing my attention and listening to the still small voice within.

That voice always reflects my 3 rules of life. It is usually the voice of reason, love, experience, encouragement, inspiration, or understanding. I know that voice from hearing it over and over through the years. I do not always grasp the meaning of some of the promptings, but I have learned to trust the still small voice even without fully knowing the meaning.

The times I have followed the still small voice (such as asking Kathy to marry me), have often proven to be the better choice, when I am able to reflect back, after knowing how things turned out (being careful to not fall victim to the hindsight bias). There is no doubt, one of the things I do know (for me) is - I need to find quiet time each day to settle my mind and be still and listen for both daily guidance and long term direction, even if that means obeying the promptings to fill sandbags.

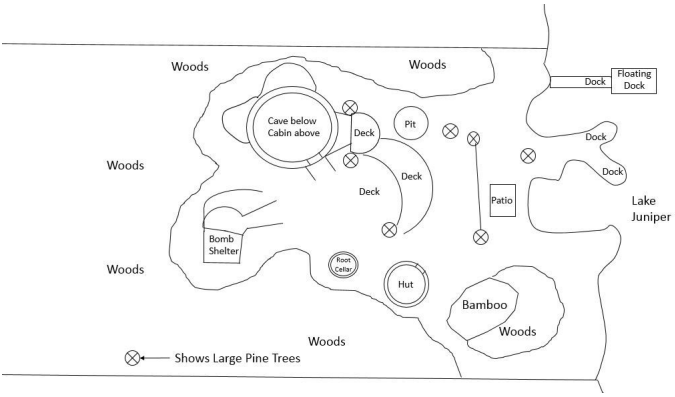
But one more thing I do know, that everyone else knows as well, (at least if they just stop and think about it, they would admit to knowing it) is that time is limited. There are only so many hours in a day. How we spend our time is even more important than how we spend our money.

I never saw the hours and hours it took to fill sandbags as a waste of time. In fact, for me it is just the opposite. I viewed filling sandbags as a good investment of my time. Now, as I enjoy retirement, I am able to spend my time doing things I truly enjoy, thanks in part to the investment of time to fill sandbags over the past few years.

I know that time is to be treasured, spent wisely and not wasted. Time can easily and quickly be wasted, if we are not honest and true to ourselves.

Chapter 11

The Bomb Shelter



All of the dirt used to fill sandbags to build the Cabin and docks came from a large, new hole I dug just up the hill from the Cave. As the hole got deeper and wider, I began to ask myself what I could use it for.

Originally my thought was to build a bigger hut, but once I realized it would block the view of the lake from our backyard, I abandoned that idea. My next thought was to line the sides of the hole with sandbags and then add a thick plastic liner to make a pond. But I abandoned that idea as well.





Eventually I began lining the walls with sandbags without really knowing what it would become. The hole was about 6 feet deep at its lowest point. The hole had 3 sides shaped something like a rectangle with one side open (the side facing the lake).

It took 14 rows of sandbags to make the walls on the sides of the hole. After completing the walls for the 3 sides, I added 3 more rows along the bottom of the walls thinking they would make a good bench.

On the open side of the hole facing the lake, I began making wide, easy to navigate steps to go in and out of the hole. As the work progressed, Kathy came down one day and asked what I planned to do with the hole. I told her I was still thinking about it, when she said - “it looks like a bomb shelter to me. Of course you could always use it as a safe place to come and get bombed too”.





I smiled and kept on working. As the last of the bags were filled and tamped, I began to think the “bomb shelter” might be a good name for this space. I laid several 18 inch square pavers on the floor to avoid having a dirt floor. I also made a couple of shelves using sandbags.

With the Bomb Shelter nearly done, the thought came that perhaps I could make it something like an outdoor kitchen. I liked that idea. This was a big enough space for not only cooking, but I could put a table in the middle and with the built in sandbag benches along the wall, it could also serve as a dining space or an area to work on projects.

Once I made up my mind to make the Bomb Shelter an outdoor kitchen/dining/workshop space, I had to decide what to do about a roof. At first I thought of leaving the space open. The entire area was shaded by several trees completely surrounding the Bomb Shelter. I really enjoyed sitting inside and being able to look up and see the sky. By having excellent shade and being 6 feet deep, it was nice and cool in the Bomb Shelter, even in summer. With one side open it did not feel like I was in a hole, even when sitting inside knowing I was below ground level.

I wondered if I could use plastic containers of some sort to keep kitchen items like a stove and dishes dry when it rained, but I really did not like the idea of a lot of plastic totes. Maybe I could just use a cheap tarp for the roof and when I wanted it open, I could remove the tarp.

I tried that idea, but the first time we had a heavy rain the tarp filled with 2 feet of water in one spot where it was sagging. That made me think about putting up some kind of frame above the bomb shelter to support the tarp. If I added some kind of rafters, I could also cover everything with screen to help keep the bugs out.

That became the plan. I used 2x6 treated lumber to span the 14 feet across the opening at the bottom of the stairway entrance. For the rafter, I felt 1x1 treated lumber would be enough to hold up the screen and the tarp.

I purchased two of the biggest rolls of screen wire that were available at the local hardware store. I draped it over the rafters on top of the hole. I also stapled the screen to the 2x6 “beam” over the doorway at the entrance. I used two big pieces of screen wire to to enter and exit the Bomb Shelter by walking between them. I made sure the screen completely covered both the roof and the large entrance.

I used two tarps to cover 60 percent of the roof area. I wanted to leave a portion open to allow the natural light to come in as well as provide additional ventilation. After adding the tarp, sitting in the Bomb Shelter even in the heat of a hot Florida summer afternoon, was still pleasantly comfortable, especially if I turned on a small fan when there was no breeze.

I added a foldable and adjustable table (covered with a plastic table cloth) that could serve as both a countertop for meal preparation as well as a table for dining. I placed a 2 gallon water jug with a spout on the sandbag shelf which was about 4 foot high above the floor. I also added some wire shelving on the sandbag shelf behind the water jug for additional storage.

I could use some of the sandbag bench area for storage, for things like the propane stove, water bottles, and utensils. I keep a 5 gallon bucket with holes drilled

in the bottom under the table. I use this as a dish drain after washing dishes.

And so, the Bomb Shelter primarily became an outdoor kitchen. Over the years, I have found it to be a great work area for making pine straw baskets or bamboo flutes. It is also a comfortable space for simply relaxing (especially in the summer evenings when the mosquitos are out after adding the screen wire to keep them out of the Bomb Shelter). I have spent many pleasant afternoons laying on my reclined zero gravity chair in the Bomb Shelter, reading my Kindle.

Eventually I removed the beam and rafters and tied a rope between two nearby trees and used that to hang two tarps over the hole. I used clothespins to attach the screen to the edges. The new roof keeps the rain out and offers plenty of shade. When the two tarps become weathered and begin to leak, it will not be hard to replace them.



I have enjoyed the Bomb Shelter, even though I did not have a clue how I would use it when I first began digging. I needed more dirt to fill bags for the Cave and the Cabin and just began digging. Even as the hole became fairly large, I still had no firm plans for it. Yet, in the end, it became as an important part of Harmony as any of the other sandbag structures.

It is roomy enough to comfortably sit 6 to 8 people for dining. Most of the time I am the only one that uses it. I enjoy picking fresh yaupon leaves in the morning and putting them in my percolator over the stove to make my morning tea … all inside a big hole in the ground.

When walking from the backyard of our house down the path that leads to Harmony - a person could not tell the bomb shelter was there, unless they already knew it. I used a brown tarp to cover the roof and it blends in well with the brown leaves on the ground. Even as a person gets closer, it just looks like a brown tarp stretched over the ground. It is not until a person walks by the steps leading to the entrance, that they can see the huge hole in the ground.





At night when the lights are on inside the Bomb Shelter, there is an eerie glow that can be seen beneath the tarp

roof when walking along the paths through the woods. I imagine what some stranger walking through the woods might think if they stumbled upon the bomb shelter at night when the lights are on. They would have to do a double take and wonder what it might be.

I suppose their first reaction might be the same one Kathy had when she first named it - the Bomb Shelter.





The hammocks in the Cave and the Cabin worked so well, that I also put one in the Bomb Shelter. It is easy to unhook so that it is not in the way of the kitchen area. It is a comfortable place for an afternoon nap, especially with the table within reach to turn on the fan or have a drink.

Chapter 12

TrueGrass Flutes

"Whenever you find yourself on the side of the majority, it is time to pause and reflect."
Mark Twain.

When I filled my first sandbag in 2004, I could not tell you exactly what motivated me to do it. I can say, I felt compelled to fill sandbags. I now attribute it to the promptings of the still small voice within. But even after completing the Hut, I still had no idea of just how many more sandbags I would fill. I just knew I wanted to fill more sandbags, without completely understanding why. The same thing holds true for another part of what makes Harmony so special for me - bamboo flutes.

In 2004 the company I worked for, hired a new employee. We worked in the same department, and I, like most of the employees, was a little intimidated by Sinder, the new employee. She was a confident and assertive person who always seemed to have a clear sense of right and wrong, as well as an uncanny ability to get past the spin people often use to defend their decisions. She would bluntly "tell it like it is" to anyone willing to listen.

Many times, she called me out on my stated reason for doing something as not being the primary motive. Most of the time (and it always took time for me to honestly reflect on what she said), I had to admit she was right.

I had been with the company for 17 years when Sinder was hired. Other employees in the engineering department had to bring new, large job designs to me for review. Normally they would lay them on the corner of my desk and then leave, but not Sinder.

She would bring her new designs to me and wait. She would sit in my office until I looked at her design, even if I made her wait for 30 minutes. During that time she would strike up conversations with me, even though I was reluctant to talk about anything other than work. Sinder had a way of being assertive and getting her way.

I learned she went with her father metal detecting some weekends. One morning she brought an object in for me to see. They had unearthed a county seal used around the time of the Civil War. The old seal had been used by the county to stamp documents. Sinder wanted me to scan it using our high resolution scanner. As I was scanning the seal, Sinder said she wished she knew what the Latin phrase on the seal meant.

I looked at it and quickly realized it was the same phrase I had had stamped on dog tags back in the 70's - suum cuique. I told her it meant "to each his own". Then I told her about my dog tags.

Later that night, I was sitting in the Hut after dark reflecting back on the day. I had a strong sense that I was to get to know Sinder, no matter what. That still small voice within seemed to be telling me very clearly to open up to her and become friends with her.

And I did. At first we argued … a lot. We had opposing views on practically every topic including politics and religion, so our conversations became passionate and even heated at times. But no matter how frustrated I became with her, I always recalled the clear sense that I was to be friends with her.

I was very set in my ways at work. My confidence level on the job was high enough that few people would challenge me. But Sinder did. More times than not - she was right and I was wrong. I respected that she was right so often, but even more, I respected that she was willing to challenge or question me when others would not.

In time we became good friends. Sinder introduced me to kayaking, which has become a big part of my life. Even though Kathy and I had lived on a lake since 1985, I had never been kayaking until I met Sinder. We had a row boat and a paddle boat that we used on the lake, but no kayaks, until after hearing Sinder describe how much fun she had when kayaking. Kathy and I began joining Sinder and her sister, Ronda when they would kayak down some of the local rivers.

In 2008, Sinder and I went to a Native American Flute festival. We both loved to listen to Native American flute music, especially when kayaking. I have been drawn to music all of my life. There are times when music can reach deep places within, far better than words. And a good flute brings calmness, even on frustrating days. I had been given a wooden flute made by a friend in North Carolina. I like the deep, soft sound of the flute and enjoyed playing it in the hut. Listening to soft,

relaxing flute music, became one of my favorite ways to reduce stress.

There were dozens of flute makers at the festival. One of them made flutes from bamboo. I had never seen bamboo flutes and was immediately captivated. The idea of taking something growing in the ground and turning it into a beautiful musical instrument amazed me and gripped me at some core level. I immediately wanted to see if I could make a bamboo flute.

Sinder and I each purchased one of the bamboo flutes from the festival. As soon as I had mine home, I removed the bird that was tied to the flute covering the blow hole and began to study how it was made.

I began searching for a place where I could find some bamboo. I told Sinder about wanting to locate bamboo to try and make flutes. The next day she brought me 3 pieces of green bamboo that were each about 6 foot long. There was a large vacant bamboo field near her house. She had gone into the field on her way home from work and cut a 20 foot piece of bamboo that she thought was about the right size for flutes.

She rolled down the drivers side window on her car and drove home holding the long piece out the window. Once she had it home, she cut it into 3 pieces smaller pieces to bring to me the next day. And thus began my flute making journey.

Using the green bamboo from Sinder, I tried to duplicate the flute I bought at the festival. One of the first lessons I should have learned, was to treat the bamboo with

heat (to dry it and get all of the moisture out) or give it a few months of sunshine to let it naturally dry out. But I was too obsessed with making my first flute and did not do enough research. I used green bamboo instead of drying the bamboo first.

I will not go into all of the details of teaching myself how to make a flute, other than to say, once I was able to coax a sound out of my green flute, it was way out of tune (even though I spaced the holes exactly like the one I purchased). My solution was to duct tape over the bad hole locations and then redrill the hole based on whether the note was too high or too low.

So the very first flute I made was from green, unseasoned bamboo with three pieces of duct tape covering bad hole locations. Nevertheless, I was proud of it. I had done it. It sounded nowhere near as good as the flute I bought and it certainly looked awful with the duct tape, but I had done it! I had taken something growing in nature and made a musical instrument out of it!

Over time I learned to season the green bamboo using a heating torch (although I also let some bamboo dry naturally in sunshine). Sinder received permission to harvest as much bamboo as we wanted from the 5 acre field. That gave me plenty of bamboo to experiment with.

With lots of trial and error I was able to make decent sounding flutes after a few months. Some of the flutes sound exceptionally good. I surprised Sinder with 3

flutes I had made for her birthday, each in a different key.

Sinder not only enjoys listening to flute music, she is also an award winning flute player and has been selected to play in multiple national flute competitions. I enjoy playing flutes, but I play for my own satisfaction. Sinder does as well, but she is also good enough to play for others. When we are kayaking on some of the local rivers other people within earshot of her playing will stop what they are doing to listen. I've always thought she should make a recording of her flute playing because she is that good.

She too, began doing research on flute making, primarily focusing on the best way to finish them. She demonstrated some of her creative talent by burning her own green bamboo and adding her artistic flare to the process.

She developed her own unique method for coloring flutes and then applying a beautiful glossy finish. We decided to start a business called TrueGrass flutes. Sinder came up with the name and I loved it.



We set up a website called TGFlutes.com in 2010. We started an LLC and began selling our flutes on the internet. Our first year we sold almost 100 flutes with some of them shipped as far away as Alaska. Flute making became a regular hobby for us.



Bamboo is the fastest growing plant on the planet. It is a member of the grass family with a wide variety of species with some very unique properties. Most bamboo species flower every 60 to 130 years with some species all flowering at the same time even if the bamboo is located on opposite sides of the planet!

I transplanted some bamboo from the field we were using to an area on our property near the lake (not far from the original Hut). Every March new shoots come up and within 6 to 8 weeks they will reach their full height (some as high as 20 feet). In 2018 two of the new shoots came up right in front of the Hut.

I decided to leave the bamboo shoots even though one was almost directly in front of the Hut doorway. Flute

making and flute playing were part of what made my sandbag world so special. When looking at the Hut from the lake, the bamboo grove now dominates the area just left of the Hut. To have bamboo grow directly in front of it, makes the Hut look even more like a part of nature. Should the bamboo become so thick in front of the Hut door to block the view to the lake from inside, I can always thin out the bamboo and make flutes from it.

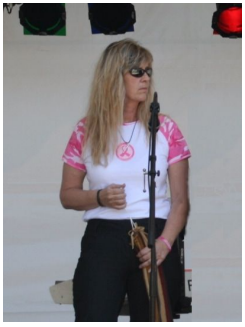
Now after making hundreds of flutes, I still cannot fully explain what drove me to begin making flutes. I really was obsessed to the point where that was all I did with my free time when I first started. I felt like I had to learn to make bamboo flutes. I had no interest in making a wooden flute, only a bamboo flute.



I listened to that still small voice prompting me to become friends with Sinder and to make bamboo flutes without fully understanding why. As I began the flute making journey, there was never an idea or vision of someday partnering with Sinder and selling bamboo flutes all over the United States, but that is what happened.



Just as I never imagined the full scope of how filling some sandbags would evolve into my own private resort, I never thought making that first bamboo flute, would turn into both a hobby and a small business and a big part of my life in Harmony.



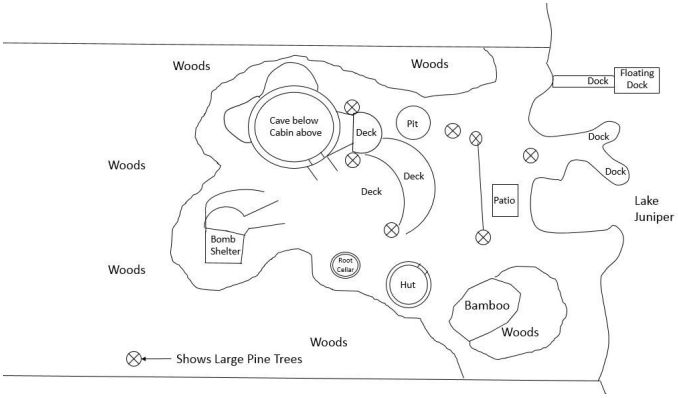


Sinder at a flute competition --- Kathy and I in our flute booth

Chapter 13

Harmony

"Life is really simple, but we insist on making it complicated."
Confucius



I think the name Harmony is perfect for my small private resort in the woods, down by the edge of the lake. Harmony - is a great description for how I feel after spending time there, surrounded by nature and my simple sandbag structures. Harmony is more than just a place, it is a state of being, an attitude, a way of looking at life, and a way of enjoying life. For me, it is a way of living.

I am retired and spend much of my free time in Harmony. I sleep there a few times each month, but most nights I sleep at our house. Now that I have added eggs and cheese back into my diet I need refrigeration and eat most meals at our house. But there are times when I will spend multiple days and nights in Harmony and never go up to the house.

Sinder had a metal circular sign made for me that on the outer circle says Life In Harmony. On the inner circle is a majestic eagle with outstretched wings and a beautiful tree. I was with Sinder the very first time she saw an eagle. She was about to perform at her first national flute competition and was a little nervous until seeing the eagle.



There are two tall trees on either side of the path that leads from the backyard of our house to the area I call Harmony. I painted a 2x4" piece of wood black and hung it between the two trees and screwed the sign in the center of the board.

Now anyone walking down the path has to walk beneath the sign. Each time I go down the path, I smile when I see the eagle. I love it. It is a reminder of what that space means to me. It means more than just … harmony. It means … a way of life.

In "Walden", Henry David Thoreau wrote:

"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. I did not wish to live what was not life, living is so dear; nor did I wish to practise resignation, unless it was quite necessary. I wanted to live deep and suck out all the marrow of life, ..."

What began as a small experiment with sandbags transformed into a daily opportunity to squeeze all of the marrow from life with simplicity, subtraction, silence, and sandbags.

Many lessons were learned over the course of 14 years of filling sandbags. I found time to look hard at myself and to honestly examine my condition, to think, and to not think - to challenge long held beliefs and assumptions. I resisted the "status quo" and sought to learn how to truly live (by my own standards and the promptings of the still small voice within, rather than what was given to me by the world around me). As a result, I changed directions in several areas of my life. Food was a huge aspect of my life that changed. It was enough to warrant its own chapter in this book. But there are several other areas that were impacted as well:

Finances:

As I began the practice of subtraction and moving towards a more simple life, one of the first things that

glared at me was money. When I first began asking myself - what did I not want in life - debt was near the top of the list.

Kathy and I have always been “thrifty” with money. Raising 4 children on average incomes almost forces a person to not go overboard with spending too much. Still, we had credit card debt, the house mortgage, and a car payment and no savings. Our incomes never seemed to be enough to cover our basic expenses plus the things the kids needed.

After the children left home and I began the journey to simple living, we made up our minds to get completely out of debt as fast as possible. We started by paying off our credit card debts. When the last credit card debt was paid off, we felt very relieved.

About this time Kathy was getting very frustrated at work. We decided it was a good time for her to retire (even though she was only 49. Life is too short to be aggravated every day. But even without her income, we came up with a plan to pay off our car early and add extra money to our house payments. But the only way we could do this was to stop spending money on anything other than normal living expenses, and - we did.

We developed a budget (that included saving money) and stuck to it. All new raises I received from my job went straight into my 401k. We also used any surplus money to either go to savings or paying extra on the principle for our house. While our budget was frugal, it was also realistic. We left some money for unexpected

expenses (including self indulgent “splurging” now and then).

The goal for the budget was to become debt free by eliminating waste, unnecessary purchases, and reduce expenses. One of the ways we reduced expenses was to move to a high deductible health insurance plan. Our attitude towards insurance is to only use it if we had a catastrophic illness or accident. By paying our medical expenses out of our pocket each year, we could save money annually because of reduced insurance premiums. We were also able to reduce our utility bills (including our cell phone plan), food expenses, clothing, and online purchases.

By 2012 we were debt free. I cannot describe the relief that comes from not having any debt. There were times when I almost felt like an economic slave going to work each day to put money in someone’s else’s pockets. So being debt free was very liberating!!

It was not easy. I had to train myself to stop buying things on impulse. I found if I felt like I truly needed to buy something, I could wait 30 days and most of the time, by the end of the 30 days, I no longer felt like I needed it.

Since it was just the two of us living at home, our utility and grocery bills went down dramatically. Plus I began eating meals for less than a dollar a meal. So we were able to reduce our living expenses on top of saving money from not buying new (unneeded) things. I continue to be thankful for Kathy for not having

extravagant tastes and supporting the decision to live more simply.

And even though most of the time we only purchased what we needed, there were exceptions. We made sure we had a "date" night at least once a month. And in 2012 we celebrated our 30th wedding anniversary by splurging on a trip to a high end hotel in Key West.

Still, by 2018 we had saved enough money to allow me to retire at the age of 59, because we were willing to maintain the same simple life style and budget. There were a few times when we had tightened our financial belts and I asked myself why we had to be so frugal. But on my last day on the job with the company I had worked for, for 31 years, as I was riding my bicycle home for the last time - I thought - whatever sacrifices we had made, were well worth it to be able to walk away from going to work each day!!

In reality - following the practice of subtraction meant removing things I no longer needed as well as things I did not like. Embracing simplicity was a huge motivator in my life that spilled over into our finances. By embracing simple living, I was able to retire sooner than many of my coworkers who were older than me and had worked for the company even longer than I had.

Some coworkers wanted more income for things like vacation homes, big boats, or RV's. They were willing to pay the price for that additional income, by trading more years of their life to continue working. When I began subtracting things I did not want, I knew debt was near the top of the list. By removing debt so many years

ago, Kathy and I found we could live on far less income allowing both of us to retire early.

Transportation:

One of the most glaring portions of a typical family budget is transportation. There is not only the expense of a car payment, but also insurance, licensing, and ongoing fuel and maintenance costs. Even in an urban area and using public transportation, there is still a significant cost.

The amount of money most families spend on transportation is surpassed only by the costs for housing in their family budget.

While exploring alternatives and ways to reduce a transportation budget, one of the biggest and most obvious things we can do is to live close to where we work. In my case, I lived close enough to where I worked, that I could trade my car on a bicycle. And I did.

I had an old Volkswagen Beetle that kept breaking down and needing repairs. One evening after it would not start, I made a comment that I would trade it in for a bicycle. My brother, Tony was visiting at that time and promptly went to the local retail store and purchased a $90 bicycle and brought it to our house.

I was still upset enough over the car breaking down yet again, that I got the title and signed it over to Tony. I

traded the car for the bike he just bought and started riding the bike to work.

When I first began riding my bicycle 5 miles to work and 5 miles home each day, there were times when I thought maybe I should buy another vehicle. There were some days when I really did not feel like riding a bicycle to work.

But after a month of riding, a coworker came up to me and said “I hear you are riding your bike to work”. I answered yes, and he said “aw that will never last”. My pride kicked in and I forced myself to ride whether I really wanted to or not.

After a year or so, it just became a habit. I no longer asked myself if I wanted to ride each morning, I just did it. When it was time to leave for work, I got on my bicycle and rode - rain or shine, hot or cold.

The first few years of riding was a period of learning. I learned the best lights to use, to have plenty of reflective clothing at night, to always be prepared for rain, to wear a helmet, and to keep the bike simple.

I began riding an 18 speed bike, but for the last 15 years of riding, I used single speed coaster bicycles. They are simpler to maintain than a multi speed bike. Over the years I have ridden half a dozen different bikes. For a couple of years I rode a small fold up bike with 16” tires. Some of my coworkers thought I looked like a clown in a circus while riding that bike.



I worked in an office, so I always neatly folded my dress clothes into a waterproof backpack and would change at work after taking a sponge bath. I began my ride early enough in the morning, that it was not too hot. I always kept a spare change of clothes (including shoes and a belt) in a desk drawer at work in case I forgot to pack something.

For several years I always carried a spare tube and tools to change a tire. Then I found puncture proof tires and stopped taking tools for changing tires. When I stopped using the puncture proof tires after a couple of years, I decided to take my chances and if I had a flat, I could walk the bike. Over the ten year period of doing that, I only had to walk the bike 3 times.

One of the most often asked questions I got from people when they learned I rode a bike 10 miles each day was - what do you do when it rains. My quick response was always - I get wet.

Getting wet is not such a bad thing. In fact, I admit there were times when it was raining and I saw puddles that I would deliberately ride through the puddle. It always made me feel like I did when I was a kid. It rained far more in the afternoons than it did in the mornings, especially in the summer months. So, getting wet on the ride home in summer, was always refreshing.

Riding a bike became my primary means of transportation. Kathy had a vehicle, but that was it. One time I went a year and a half without driving any car. I even rode my bicycle to work on Habitat houses or to visit with family.

It was just how I got to work. It became a way of life for me. Even at the end of my career, when I left for work each morning, I never thought about not riding, even though our truck was always parked in the yard and not being used. I just got on my bike without giving it a single thought.

Now, I consider the decision to ride a bicycle to work to be one of the best decisions I ever made. It has not only saved on gasoline, oil, maintenance, and insurance - it has kept me healthier than many of the people I know that are my age. It is one of the reasons I could fill so many 50 lb sandbags!

Now that I am retired, I still take the bike out for at least 5 miles each day and also use it to visit my mom, my sister Terri, my dad, or ride to a park 3 miles away that has a lake for swimming.

I posted this on my Facebook page on the 20th anniversary of riding my bike to work:

I remember April 4th, 1994. It was on that day, 20 years ago today, that I rode my bike to work for the first time. That decision became one of the best decisions of my life. To put it in perspective just how long ago it was, our youngest son was in 3rd grade at the time (he will soon turn 28).

I have gotten to work for 20 years now without gasoline. Yes, I have been riding a bike 10 miles a day, each and everyday, rain or shine, hot or cold since 1994. I have ridden through many a storm and strong winds, but the price on the harder days is well worth it because of the many, many more days of calmness, pleasant weather, and beautiful sunshine. There are a couple of hills along the way, but one of the best things about pedaling up the hills, is knowing I get to coast back down on the ride home.

This time of year is especially nice because I have a ringside seat to see the wisteria and azaleas blooming. I hear the birds sing with a passion that only comes in Spring. I see people getting out in their yards more and taking more walks. I always give them a big smile and a friendly wave. For the little children I pass who are waiting to catch their bus, I like to ring the bell my mother gave me a few years back.

Today will be like many other Spring days since 1994. I will soon load my backpack with my work clothes and my lunch, turn on my blinking tail lights and put on my bright neon green vest along with my helmet and begin the 5 mile journey to work with … a big smile on my face and gratitude in my heart for having the health and opportunity to pedal.

I say it has been one of the best decisions of my life for many reasons. There is the obvious savings on buying gas (and the expense of insurance and car payments). And there is no doubt it has contributed to the good health I have enjoyed (which I am very thankful for). But it's also been a great decision because of some of the lessons I have learned from viewing the world behind handlebars.

Those lessons include:

- *learning to take life at a slower pace (you really cannot get in a big hurry when riding a bike)*
- *finding the most satisfying things in life come from a little (sometimes a lot of) work*
- *flat tires are going to happen from time to time - deal with it*
- *being friendly to others is contagious*
- *it's always good to be prepared for rain even when you really don't expect it*
- *keeping things simple tends to make life more enjoyable*
- *a life cannot be defined by one day - just as it takes many turns of the pedal, one after*

another to travel miles on a bike, it also takes many, many days, filled with many, many choices to build a life

I hope to retire before 20 more years of riding, but there is something inside of me that says even in retirement, I will take the bike out for a daily spin around the neighborhood as long as my health holds up.

Here's to twenty years of my favorite mode of transportation - the bicycle, one of the most incredible, enjoyable, and beneficial inventions ever.





Digital possessions:

As I subtracted things in my life, I often replaced them when possible with digital versions. After we bought our first scanner, I scanned old photographs, documents, and all important papers. I put everything on an sd card that I kept in my wallet.

Over the years I organized "my digital life" (that's what I call the sd card) into folders like photos, videos, books, music, and a folder I call leave_behind. Inside the

leave_behind folder are things I want to leave for our children and grandchildren. In that folder are things like genealogy information I've gathered over the years, some of my favorite photos, emails I wanted to save, old writings I've done over the years, copies of our annual family newsletter that go back to 1992, scanned documents (like birth certificates, property deeds, marriage records, …), scanned baby books - pretty much anything on paper that was of value was scanned.

By converting items to a digital version, I was able to remove even more clutter physically. I still kept a paper copy of our most important documents, but I was able to get rid of many books, papers, and photographs that were taking up space.

I quickly learned, it is important to keep the digital files well organised and trimmed down, otherwise I would simply be changing physical clutter to digital clutter. Before permanently saving a digital file, it is best to ask if it is something that would be wanted in 5 years. If the answer is no, it does not go on the sd card. I also made sure I always had a second copy of "my life" as a backup.

Clearly digital possessions have some advantages. First it frees up space in our house. Plus I can make multiple copies of my digital files (including regular backups, since all electronic drives can and will fail at some point). But for me digital possessions also gives me a sense of peace. I no longer had to worry about what things I would grab if we woke up in the middle of the night with a fire. Making regular backups meant I

could always have a copy of my digital life at multiple safe locations.

Removing some of the clutter in our house seemed to make the house more open. Sometimes the most aesthetic room for me is one with simple functional furniture and nothing else. When I stopped watching T.V. in 2003, Kathy agreed to removing the television from both our bedroom and our living room. What a change that made, not only in less things in the room, but also in how those rooms were used!

I enjoy the freedom that comes from not being attached to material things. Even though I still have an attachment to my digital possessions, it is much easier to manage digital things. Books are an excellent example. I love reading and had a collection of hundreds and hundreds of books. When I bought a Kindle, I began letting go of nearly all of those books and now carry dozens and dozens of books on the Kindle. It was impossible to take my entire paper book library with me on a trip, but not true with the Kindle. When traveling, I can easily switch books depending on the mood I am in.

Well organized digital possessions gives me quick and easy access to photos and documents even if I am at someone's house. Many times I have been at a family member's house and during a conversation someone will mention an old photo or document, that I was quickly able to retrieve by opening my sd card on their computer.

Digital possessions definitely simplified my life and my relationship to material things. Electrons are much easier to manage and store information (thanks to our wonderful technology of ones and zeros) than boxes and boxes of papers, photos, books, magazines, and music.

Clothes:

One of the most visible ways we judge one another is through our clothes. As I began simplifying my life, what I wore was one of the things that came under the microscope. Since I worked in an office and the company had a formal dress policy, I had little choice, but to continue buying and wearing business attire. Although over time I reduced my work wardrobe to only white, long sleeved, dress shirts and dark dress pants. That was my work attire for more than 10 years near the end of my career.

But at home, I was able to transition to clothes that were more functional and comfortable than trendy. Living in Florida meant wearing shorts much of the year. I found an online merchant where I am able to purchase plain black shorts for $6. During most of the year I only wear shorts and nothing else. If I am in Harmony there are times when I do not even wear shorts. Most of my life I have not had big hangups about clothes. I strongly resist the urge to label or be labeled based on clothing. To me, what a person wears (or does not wear) should not be a big deal.

Most of my tee shirts were given to me as gifts or from volunteering for a charity such as an Autism event or working at Habitat for Humanity. When we are home, wearing shorts or boxers is my primary attire. When away from home or if we have visitors I select a shirt from a handful of tee shirts or Hawaiian shirts. For shoes I wear flip flops or water shoes most of the time.

Clothing is just not an important part of my life. Once I retired from work, I removed all of my dress clothes from the closet, except for a couple of shirts and pants to attend weddings, funerals, and formal events. The bulk of my current wardrobe now is a few pairs of short pants, underwear, a handful shirts, socks, flip flops, water shoes, and inexpensive canvas sneakers.

Clothing is used to make a statement for some people, but for me, its primary role is comfort and practicality. I would not even think about telling someone what they should or should not wear. It is not my place. We should all be free to dress (or not dress) as we like. That does not mean we cannot have opinions of what we think about someone's choice of clothes. But for me the practice of subtraction allowed me to remove clothing from the list of things needed for a high quality of life. I stopped spending much time trying to decide what to wear or not to wear.

Technology:

My first solar panel was a 13 watt 12 volt portable panel. The last few years, I have migrated to using foldable 5 volt solar panels. I have 7 watt, 14 watt, and a 24 watt

foldable solar panels. I like them because they are more rugged, easily packed when not being used, and they have built in usb charging ports. I can plug my phone, Kindle, batteries, or fans directly into the solar panel.



I use 10,000 mAh lithium batteries for running the fans and charging my phone at night. I have three of them and make sure at least one of them is always fully charged.

I have a 9” usb powered fan and several 4” usb fans. They keep me comfortable even on the hottest days whether I am in the Hut, the Bomb Shelter, or any of the other places in Harmony.

I’ve used several types of solar lanterns and solar powered flashlights over the years. For the past few years I only use inflatable solar powered LED lights. They hold a charge and can burn most of the night on low power. I have 4 of them and they are ample light for Harmony at night, even if I have company spending the night with me.




I also have an LED bulb with a hanger that runs off of a 5 volt usb port. That means I can power it with one of my lithium batteries. If we have several cloudy days where the inflatable solar LED lanterns cannot charge, I can use the LED bulb. It brightens up the entire Bomb Shelter when I use it. It also has an on off switch for added convenience.





I use my cell phone as an mp3 player and camera. I also use it to watch some of my favorite videos now and then when I am spending the night by myself. Although, if I am in Harmony I prefer watching nature over videos.

I have multiple types of water filters. If it is necessary (such as after a hurricane), I could drink water from the lake. Most of the water I use in Harmony is brought down from our house. There have been times when I considered running a water line down to Harmony, but I like have Harmony completely off grid.

My hammock and tarp are made from recent lightweight fabric. And I have multiple ways to keep things cool (using ice from our house) if needed when spending days in Harmony. While I adhere to simple living, technology is my friend and helps me enjoy a high quality of life, even when I spend time in Harmony.

While I embrace simple living, that does not mean letting go of technology. In fact, technology (such as my Kindle and solar panels) better allows me to live simply.

Hobbies and Entertainment:

My goals for both hobbies and entertainment, is to find things that we enjoy, that are not expensive. Kathy and I enjoy a date night at least once a month. We go out to eat on average once a week at the most. We both enjoy going to activities that our grandchildren are in, as well as the occasional family night where our whole clan gathers for a meal and a game. We also like to travel and go camping.





My biggest hobbies are kayaking, flutes, reading, making pine straw baskets, hammock time, and filling sandbags. While it does cost money to buy a kayak, there are seldom any additional costs after the initial purchase. Having such a large lake in our backyard also makes kayaking a no brainer for me.



With multiple sandbag structures in Harmony, it now feels more like a little village of sorts than just a simple shelter. It honestly feels like my own small private resort. The Cabin is primarily used during winter and in extremely heavy rains, or when I have guests. But I still enjoy sitting on the porch way above the ground looking out over the lake. I also use the Cabin and the Cave below it to store pillows, blankets, air mattresses, tools, sandbags, and other odds and ends.

The Bomb Shelter gets frequent use, primarily because it is the outdoor kitchen. I am pretty much in the Bomb Shelter daily, if for no other reason than to fill up my water bottle. It is a comfortable space for relaxing, reading, working on bamboo flutes, weaving pine straw baskets, or food preparation. When I stretch out the

hammock it is a great place to nap or even spend the night. If I had to chose to have only one of my sandbag structures it would be a very hard choice between the Hut and the Bomb Shelter, but I would have to choose the Bomb Shelter. Thankfully I do not have to choose. I can have them both.

I've used the Guest Hut (more in the next chapter) to sleep in several times, but it was built primarily for when I have company. It can easily seat 4 - 6 people inside or sleep 2 people comfortably. I like the concrete floor that goes completely under the walls. Because of that, I may find myself spending more time in it in the future. There are times when a dirt floor in the original Hut has its disadvantages.

I am happy with the sandbag decks. I can put hammocks up over three of the sandbag decks. The decks provide a nice level spot below the hammocks. The level ground from the deck also makes it easier to sit in a chair.

There are several different places to hang a hammock in Harmony, but one of my favorite places is between the two pine trees closest to the lake. I sleep there often with a tarp over the hammock.



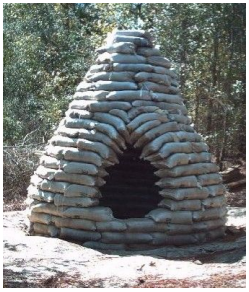


The patio and docks are used almost daily, as is the new sandbag yoga mat I made.

Since retiring, I have slowly carved out a new daily routine: kayaking for an hour, biking for 30 minutes, walking for 30 minutes, yoga, quiet time, spending time with Kathy, meals, reading, writing letters and emails, chores, hobbies, and spending time in Harmony. While having routines helps achieve consistency with things like exercise, I am not “married” to the routine. In fact my daily routines have always been limited to weekdays, not to weekends.

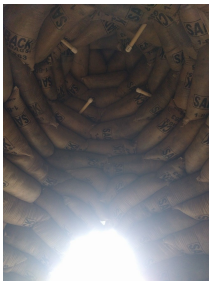
I try not to have a set routine on the weekend, allowing me to do anything I like (even if that means doing nothing at all). I use the weekday routine to reach my goals for the week. Suspending the daily routine on weekends, is something of a “reward” for sticking to the daily weekday routine. On weekends I am free, to do anything. Often, that still means taking the kayak out on the lake or doing many of the things I do during the week.

I still love and use my original hut. It is now 14 years old. Vegetation has completely taken over the outside, especially the yaupon bushes that I use to make tea and the bamboo used to make flutes. It also has blackberry bushes growing on the side as well as some small oak trees that I keep trimmed.




Even now, all of these years later, I sit inside the Hut (beneath a big pile of sand) and like to look out to the other side of the lake, half of a mile away. Nobody can ever take that view away from me. It remains a favorite spot to meditate, play my flute, watch the rain, or listen to that still small voice within.

Every summer, I make sure I spend a few nights in the Hut. I still love waking up in the morning and seeing the sky from the open doorway while hearing the birds welcoming a new day. When it is dark, on a clear night, I can lay on the Hut floor and see stars in the section of sky visible through the doorway and hear hundreds of frogs blending in with crickets invading the silence of the night.

The Hut still has a dirt floor. It now has a beach chair, a candle, a usb powered fan, and a block of wood (used as a stand for a fan or lights, or for additional sitting if I have company). I sit inside the Hut and look at the sandbags over my head and marvel at the simplicity of the structure.

I filled and carried each of the bags surrounding me, all by myself. Since it was built so many years ago, when I sit inside, it almost feels old enough that someone from another generation could have built it. The sand in the bags is as hard as concrete now. Sometimes I wonder just how long the Hut will last. I am certain it will out live me (I want our children to spread half of my ashes on the floor when I am gone).

Although it was cheap and simple to build, it has served me well. It has answered the question for me of how much does a good permanent shelter have to cost.

I have carved out a life in harmony that works for me. I seek to learn as much as I can and read the latest books on physics, biology, psychology, genetics, algorithms, or information theory. But, I am also completely content to spend time in harmony observing dragon flies, water lilies, trees, fish, plants, birds, and

clouds reflected on the surface of the lake. Daily I find time for silence in Harmony.

I am a big fan of science and feel blessed to have lived to see and experience so many wonderful discoveries over the course of my life. I enjoy an enriched and satisfying life, thanks in part to technology such as solar panels, cell phones, and my KIndle. The internet has definitely made my life better! The impacts of technology and advances in science have fundamentally changed our world. Still, I know there are many mysteries that have not been solved (and may not be solved) by science. I also know there are times we just have to say - we don't know somethings.

In short, nobody has all of the answers. And what answers I may have, work for me, but may not be of any value to others. I have written this book hoping to share how I started filling sandbags, not having a clue of the impact it would have in my life, over the course of many years. Maybe others might benefit from reading about some of my experiences, maybe not. At the very least, I hope I have shown what is possible with hard work, a few sandbags, and ... time.

Even though I had no firm plans to make Harmony into what it is today, I am still very proud and satisfied with Harmony. Sometimes we are compelled by some prompting or an inner voice to do something, without the slightest idea that it could become … life changing. That happened to me when I filled the first sandbag for the Hut.

I daily listen to the voices of experience and reason. But most of all, I try to be as honest as I possibly can be with myself (despite whatever masks I wear or reasons I use, around others). I give myself freedom and try not to let other people restrict the way I live my life.

My grandfather was a preacher and he highly valued common sense, but there are times, he said, when common sense is not enough. He said never ignore common sense, but even more important - never ignore what the Spirit is telling you.

For me, obeying the inward prompting to fill some sandbags, adopting the practice of subtraction, embracing a theme of simple living, and applying suum cuique (to each his own) as a rule for living in freedom - led to a whole new lifestyle of simplicity, contentment, and freedom. For me it is a … life in Harmony.



Chapter 14

New Guest Hut





In the fall of 2017, I decided it was time to build another hut. There were times when I had company in Harmony and both the original Hut and the Cabin were small spaces if there were three or more people.

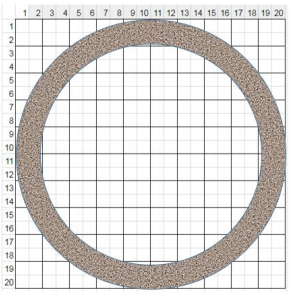
I wanted to build a new hut - much like the original one, but only bigger. I knew the inside needed more space than the first hut, but I also wanted a bigger doorway than I had on the first hut, as well as something other than a dirt floor.

I began considering locations for the new hut and decided to put it near the Bomb Shelter since it was the outdoor kitchen. But this meant there would be no view of the lake from the new hut. That was okay. In fact, if I positioned the doorway to face south, I could not only block any cold north winter winds, but also get the most sunlight in the winter.

Since I did not want to create another hole for the new hut, I considered ordering a truck load of dirt. I did not order the dirt because I could calculate how much dirt I

would need and dig deep enough at the new hut location to provide enough dirt for the project, without digging from someplace else on our property or buying dirt and having it hauled in.

I was happy with using concrete pavers for the floor of both the Cave and the Bomb Shelter. But using square pavers trying to butt up against curved walls leaves some gaps between the paver and the sandbag walls. However I reasoned, if I dug a square hole for the new hut and laid the pavers down first and then add a circle of sandbags on top of the pavers, that would give the new hut a nice concrete floor all of the way to the edge of the walls.





The original Hut began with an 8 foot diameter circle. The bags were placed on the inside of the circle, which is an inside diameter of just over 6 feet. But if I placed bags on the outside of an 8 foot circle for the new hut, it would have an 8 foot inside diameter. That translates into much more interior space than the original Hut.

I calculated how many 12 inch by 12 inch pavers I would need for a 10 foot by 10 foot square floor, which came out to 88 since I did not need the 3 pavers in each of the

four corners. Then I calculated how many sandbags it would take (about 400) and how much dirt it would take to fill the bags. I would need to dig down 3 feet deep for a square 10 foot by 10 foot hole. In November of 2017, (exactly 5 years after my friend Pam prompted me to begin working on the Cave in 2012), I began digging yet another hole on our property.

This project was unlike my other sandbag projects because, I did more planning for this one than I did on the others. As I dug the square hole, I could envision laying the pavers and then adding the first row of bags. I had an image of what the hut would look like even before I laid the first bag, which was not the case with my other sandbag structures.

Once I got below the topsoil, I began filling sandbags and then taking them away from the hole and stacking them nearby. Filling bags and moving them away from the hole, only to have to move them back at some future point was double work, but it meant not creating a new hole and then having to find some additional use for it.

By the time I finished digging, I had 350 sandbags on the ground in two large stacks. Since the floor would be 3 feet below ground level, I knew I would need to dig another stairway entrance and decided I could get another 50 bags from digging that to give me the 400 bags I estimated I would need.

I used my iron tamper (the same one I use to tamp all of my sandbags) to tamp and level the bottom of the new hole. I had a long 2x4 board and a 4 foot level that I used to make sure there were no hills or dips in the

floor. It needed to be completely packed and level before I started laying pavers.

We had to make a couple of trips to the hardware store to buy the 88 square concrete pavers. Our small truck could not haul them all in one trip. I learned that lesson when buying lumber for the floor joists above the Cave. Once we had them at our house, I used a wheelbarrow to move them 6 at a time from the truck down to the location for the new hut about 200 feet away.

I marked the center of the new hut and began laying pavers at this point, working my way out from the center. I was still working full time and was only able to work on weekends. During the Christmas holiday, my sister, Tammy from Washington state was visiting and helped me with some of the pavers and with filling sandbags.

Once the pavers were laid, I waited a couple of weeks to let them settle and made sure they were still level. After being satisfied they were level and stable, I drove a metal stake in the center in between pavers and tied an 8 foot orange string to it.

I began laying the first row of bags using the string to guide where the inside of the bag should be placed. It took 19 full sandbags and one half bag to make the first row. I tamped them down and used the long 2x4 board with the level to make sure the top of the bags were level with each other.

Laying the bags for the new hut was much different than any of my previous sandbag projects. On all of my past projects, I would dig a little, fill a few bags and then

move them to the project site. I would lay the bags and return to the digging location and repeat the process.

With the new hut all of the bags were already filled. All I had to do was carry them, place them, and tamp them. Filling the bags was already done. This made the work go much faster. At the end of each row I would check level after tamping the bags.

On the second row of bags, I left an opening big enough for the doorway. On the third row, I placed a 40 inch long, 4 inch pvc pipe with a cap on one end at the north, east, south, and west directions in between rows of sandbags. Each of these four pipes would be completely underground when the project was completed. I planned to use them for storage space.





I built a small buttress wall on either side of the doorway opening and interlocked the corners with the walls for the new hut. Once I was waist high with the rows, I built a wooden frame for the doorway using thick, treated landscape timbers for the sides of the doorway frame.

After laying 12 rows of sandbags I used 3 inch pvc pipes for small windows and ventilation. I left them sticking out on the inside of the wall with enough space to put a

coupling on the end with screen wire in it to help keep any bugs out of the new hut.

On the first hut, I had to go back a year later to add a porch, because rain would come inside, since the walls were slanted inward. On the new hut, I opted for more of an igloo like design where the doorway extended out away from the slanting walls and would remain straight. This meant the walls began slanting inward, but the doorway did not.

The interlocking of the doorway walls with the short buttress walls on either side provided stability until I reached the 7 foot high mark. I then used three treated 2 x 6 boards nailed together to form a beam to span the opening 20 inches inside of the top of the doorway header.

Then I built a .75 inch plywood deck from the new beam back to the top of the doorway. This would be used to lay sandbags on top and carry the weight of the inner walls as they went up over the doorway. It also allowed for some small shelving space for inside the Guest Hut.





I used .75 inch pvc pipes on the next row of bags to be used to hang items (like lights, jackets, and towels) and

then covered them with the next row of bags to hold them in place.

The rows of bags were high enough to require using a step ladder to place them. I put the step ladder in the middle of the floor and turned the ladder in the direction for the next bag. Since the inside diameter of the new hut was bigger than the original hut, that meant the height would be much higher.

After I built 7 more rows above the doorway, I stopped. The new Guest Hut took a total of 420 sandbags and 22 rows.





Ever since building the Bomb Shelter, I realized the value of natural light. And even though I have ventilation in the Cave, it is so far below ground level that there is some dampness inside. So my plan for the new hut was to built a small sky light at the top, that could be opened during good weather and help keep the space aired out.

I bought a round 1 inch thick piece of acrylic plastic online. I had planned to make a wooden frame for it with hinges that would allow it to be opened. But while

thinking about how to make the skylight, I covered the small opening at the top of the new hut with an old outdoor patio umbrella we had. The umbrella kept the rain out, but it could be completely removed when it was not raining to provide excellent air flow in the new hut.

My original plan was to install an exterior door in the doorway, but after hanging a long beach towel over the entrance for privacy, I am still debating on whether or not I really need, or want a door. The jury is still out on that one and for now, I have the towel over the entrance and an umbrella over the hole in the roof.

As I write this book, there is still some work that needs to be done on the new Guest Hut. I am covering the outside with dirt just as I did with the old Hut and using additional sandbags to help stabilize it.

With the original Hut, I let nature do her thing as far as growing vegetation on the outside. Once the outer walls are covered in dirt and it is stable, I plan to sow seeds to help give nature a jump start with the Guest Hut.

For the time being, I plan to continue using the umbrella to cover the opening in the top. At some point I may decide to return to my original idea of building a hinged skylight. I also plan to continue using the towel over the doorway, which may be replaced by a regular exterior door at some point.

I stopped adding new rows in January of 2018. I have spent several nights in the new Guest Hut and I have had one visitor spend the night in it, since then. I have had three people comfortably sitting inside at one time,

during a rain storm and we had plenty of room, even enough room for three additional people.

I keep a beach chair, incense, candles, a lighter, and water in the Guest Hut, but everything is kept off of the floor. I also have a couple of 1 foot 4x4's I keep on a shelf above the doorway to be used as stands to set drinks on. When I want to sit and read or listen to music, I take down the beach chair hanging on the wall, light a candle and incense and I am ready. It is a cool comfortable space. It stays cooler in the summer heat, especially with the entire floor being concrete.





I use the 4x4's to raise the fan off of the floor or at night as a place to set my inflatable solar led light. Raising the light up off the floor allows more light to be spread. I can lay a 4x4 on its side and use it as a place to lay my phone or my Kindle to keep them off of the concrete floor, especially at night when I am sleeping on an air mattress. The small blocks of wood make excellent night stands.

If it does get warm inside, I can use my 5 volt usb powered fan. The fan provides plenty of air circulation. I have not used the Guest Hut to prepare or eat meals

(other than snacks) since it is just a few steps away from the outdoor kitchen (the Bomb Shelter).

I have not finished the stairway entrance for the Guest Hut. For now I have temporary sandbag steps and a small drainage pond to catch and drain water from the doorway area. For drainage around the rest of the Guest Hut, I dug a 2 foot wide ditch about 2 feet deep around the outer walls and left the ditch open on the downhill side to let any water overflowing from the ditch run down hill and away from the Guest Hut.

The Guest Hut sits beneath several live oak trees. When I have had the umbrella off of the top, some leaves have fallen inside. At some point I may build some kind of screen that can be laid over the top when the umbrella is off to prevent leaves from falling inside. Although they are easy enough to sweep off the floor.

I expect the Guest Hut to be my last major sandbag project. I am sure, I will continue to fill bags for smaller projects such as a new terrace or new dock along the water's edge, but no more large structures are planned. I am very happy with Harmony, the way it is right now.



Chapter 15

A Day in Harmony

"If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away."

Henry David Thoreau



I woke up to the sounds of early morning birds and the rustling noise of squirrels scampering around in the trees above. My double wide hammock hangs between two trees near the lake. The side edge of the hammock, which is near my face, blocks my view of the water. I pull the edge of the hammock down far enough to see the soft grey sky and the first hints of dawn.

Stars are still visible, but only near the horizon because I have a tarp stretched above the hammock to keep off

the morning dew. The tarp blocks the view of the stars directly overhead.

I lay still for a moment, asking myself if I want to get up now or drift back off to sleep. My bladder suggests getting up now which would mean if I do, I could paddle the kayak to the middle of the lake, just over a mile, in time to watch the sun come up.

I swing my legs over the side of the hammock and put on my flip flops laying on the ground, just below the hammock. Then I put on my shorts and brush my teeth and use the bathroom. Now I am ready to get out on the lake in the kayak.

I love sleeping in a hammock. I always keep tree straps around two big pines at the edge of the lake, which means I can quickly hang my hammock anytime. When spending the night, I usually tie a paracord line between the same trees about a foot above the hammock. Then I put a lightweight tarp over the line and attach the two opposite corner ends of the tarp to the paracord with two clamps. I use two stakes to anchor down the sides of the tarp to the ground on either side of the hammock.

If there is no rain in the forecast and the air is relatively dry (that does not happen often in the humid Florida climate), I like to spend the night in the hammock without the tarp, to see the stars. The hammock is made from lightweight breathable fabric making it easy to pack and very, very comfortable. I have a ridgeline on my hammock to give it a little more sag allowing me to lay at a diagonal in the hammock, which I find more comfortable.

Even though I am still a little groggy, I know the routine well enough that it does not require much thought. I turn the upside down kayak over and maneuver it near the edge of the earthen dock made with sandbags. I retrieve the paddle, life vest (with an emergency whistle attached), and a seat cushion. The life vest is strapped to the back of the kayak within easy reach and the cushion is placed on the back of the seat for added comfort.

I take my plastic ziplock bag that holds my phone, a small telescope, a hat, a knife, and some dehydrated snacks and tuck it by the edge of the seat. I fill up my water bottle from a 2 gallon jug of water and place it and a bamboo flute by the edge, on the other side of the kayak's seat.

My kayak is a 10 foot long, sit inside kayak. Standing at the edge of the dock, I place one hand on the far edge of the kayak, the other hand, on the side of the earthen dock. I put one foot in the center of the kayak and then the other foot and easily lower myself into the seat. I grab the paddle off of the dock and gently give myself a backward push, away into the deeper water of the lake.

I am off. As I navigate from the small 12 acre cove we live on into the main lake, I keep my eyes and ears alert for beavers. There is a beaver lodge on the other side of our cove. Early morning and late evenings are the best time to spot them.

Just before exiting the cove into the main lake I see one swimming directly toward me. It has not noticed me, so

I stop paddling and watch. It's head is the only part above water, as it swims toward me. When it is about 20 feet away it sees me and immediately dives, while giving a big, warning splash, slapping its tail on the surface of the water.

I smile and silently wish the beaver good morning. There have been times when I have gotten close enough to almost reach out and touch them. More often than not, they see me long before I see them and all I hear is the splash from their tail.

The lake is completely still this morning. As I glide out into the main lake, I can feel the warmth from the summer heat coming off of the surface of the lake. The sky is getting lighter and I can make out some clouds, that I hope will make for a colorful sunrise.

Paddling a kayak on a calm lake at the break of day is one of my favorite ways to wake up. I practice mindfulness throughout as much of my day as possible. I try to focus my awareness on whatever activity I am doing during the day, usually with mixed success. But being mindful while kayaking seems to be easier, especially first thing in the morning.

It takes about 30 minutes to get to the center of the lake. This part of the lake is over 2 miles wide and far away from houses and the sounds of early morning traffic on the highway a few miles away. Based on the pink color of the few clouds in the east, I am guessing I have about 20 minutes before sunrise.

The paddle out was soothing, allowing me to pay attention to the sights and sounds around me, and also to my thoughts. I take out my water bottle and have a nice long refreshing drink of water. The 20 ounce water bottle will be almost gone by the time I return. I love drinking water and by the end of the day I will have drunk about a gallon of water.

I take off my flip flops and and bring my knees almost to my chest allowing me to put my arms around my knees and just … sit. I close my eyes and let the kayak drift. On a calm day like today, I do not drift far, but on windy days it is fun to open my eyes after drifting to discover how far away I have gone.

I focus my awareness on my breathing. Slow, deep breaths. I invite any thoughts about the wonder of life, to enter my mind, while trying to block out unwanted thoughts (the best tactic for me to do that is to simply not dwell on unwanted thoughts). Life is … SO amazing. I am fascinated by many things from spiders building webs, beavers building dams, and turtles finding their way to the water even as newborns, to monarch butterfly migrations, bamboo plants all flowering at once, and thousands of cicadas that emerge every 13 years like clockwork. The list is truly endless!

If my mind drifts away from the sense of gratitude for life, I return my focus to my breaths. Slow, natural breaths - taking in the air we often take for granted, yet it is so necessary for life itself. The same life within me is also within the birds, fish, insects, plants, and trees all around me.

I am truly grateful for this amazing gift of life.

After drifting for some time, I open my eyes and see the first edge of the sun peeking over the treetops on the east side of the lake. Since it is summer it is more like the northeast part of the lake. There is a brilliant orange glow in the lower part of the sky.

I take out my bamboo flute from near the edge of the kayak seat and begin to play a soft rhythmic tune. It is a thrill to feel breath I exhale go through a piece of bamboo and come out as a slow, soft, soothing sound welcoming the morning sun.

After playing, I sit a little longer as the sun begins to climb above the trees into the sky. I fill my lungs with fresh air and position my body to begin paddling back. I always love paddling back after watching the sunrise because the sun is just to the left of me. There are times when I close my eyes while paddling, knowing as long as I keep the sun just to the left of center in my closed eyelids, I will be going in the right direction (going towards the light).

And thus begins a typical day in Harmony, what I call my little spot in the woods on the edge of a lake with several structures made from … sandbags.

After returning from kayaking, I walk up the slope, from the edge of the lake, to my outdoor kitchen made from sandbags. Just outside of the kitchen are six well tamped sandbags forming a rectangle that I use as an outdoor yoga mat. I stand at the edge of the sandbag

yoga mat and kick off my flip flops and remove my shorts.

Our property is surrounded by woods on either side as well as nothing but woods on the opposite side of the lake from us. So I do not have to be concerned about neighbors if I do nude yoga or skinny dip in the lake. I start with ten squats and then slip into a simple yoga routine I have practiced for almost 20 years.

The yoga mat is positioned to allow me to see my shadow on summer mornings against the edge of the climbing slope of our property. Surrounding my shadow is the orange glow of morning sunshine, striking the trees and plants all around.

After yoga, I go inside my sandbag kitchen and take out two measuring cups (one is for a half of a cup, the other is for a quarter of a cup). I take down 5 jars (I use empty peanut butter jars for food storage). The jars have dry rolled oats, mixed nuts, roasted soy nuts, dehydrated mushrooms, and dehydrated vegetables.

I measure half a cup of oats in my breakfast bowl, half a cup of veggies in a plastic bowl (for lunch later), and half a cup of lightly salted mixed nuts in a small container for snacking. Then I measure a quarter of a cup of mushrooms (which will be added to the veggies for lunch) and for another snack a quarter of a cup of roasted soy nuts.

I snap lids on all of the food containers except for the oatmeal I am about to make. This morning I use my small propane stove to boil water, but some mornings I

gather small twigs and use a neat camping stove my sister, Tammy bought for me, that can boil water in less than 5 minutes, using only small twigs for firewood.

Once the water is boiling, I add it to the oats and let it sit for a few minutes before adding 2 tablespoons of chia seeds, two tablespoons of ground flaxseed, and one tablespoons of raisins to my oatmeal. While I let the oatmeal cool I eat a cup of homegrown sprouts while checking the weather and email on my phone.

My main source for news and current events is Wikipedia, which is also one of my favorite places to learn about anything. Wikipedia seems to offer the most unbiased news as well as not flooding me with news I am not interested in. If it does not make the Wikipedia daily headlines, than it probably is not something I care to know about. I browse multiple articles in the encyclopedia (one of my favorite past times). I also do a very quick check on my Facebook account and spend the remainder of the time on Twitter.

After my breakfast of sprouts and oatmeal, followed by eating a couple of prunes, I pick some fresh yaupon leaves from nearby yaupon bushes. I put the leaves in a percolator filled halfway with water to make my morning tea, using the stove for heat. Yaupon is the most caffeinated plant in North America and the leaves are packed with antioxidants. That's not to mention it makes a great tasting tea and it is completely free.

I have a small patio by the edge of the lake with a couple of outdoor metal chairs and a table in the middle. I take my cup of hot yaupon tea, another bottle of water,

my bamboo flute, and my Kindle down to the patio and sit.

I sit in silence, sipping my tea in the morning sun and welcoming the start of a new and glorious day. I let the calmness of this time invade my being. I cherish this moment. And I am ever thankful for not only the gift of life, but also for the good health and the opportunity to sit quietly in a small world created primarily by nature and sandbags.

After enjoying my quiet time (for many years I have made quiet time a daily priority - even when I had to work each day, I always made time for daily moments of silence) I play a couple of songs on my flute. The sound blends in with the sounds of many birds singing around me. I read a little from my Kindle while finishing my tea and another bottle of water.

After my tea and my quiet time, I put on my shorts, a tee shirt, and water shoes and get on my single speed coaster bike. I bicycle 5 miles in a residential area along the edge of the lake. It is after 8:00 am so most people who go to work, have already left. I do not not have a single car pass me on the road, for the entire 5 miles.

The bicycle is the most efficient means of transportation ever invented! I rode to work, 10 miles each day for 24 years, rain or shine, hot or cold, and still consider riding a bike to work to be one of the best choices of my entire life. It is a great way to exercise and a cheap form of transportation. Riding a bicycle allows you to notice things like the weather, the neighborhoods, people, nature, and over time, changing seasons.

Riding my bicycle this morning reminded me of a time when my Uncle George gave me a new bicycle when I was 7 years old. I loved it so much, I rode it up and down the same road, over and over for several days, so much that my arms became sunburned. I have many pleasant memories on a bicycle and this morning's ride triggered some of those memories, as I rode in the morning sunshine.

After returning from my bike ride, I put my solar cooker in a sunny spot. I add a half of a cup of brown rice to a black pan with one cup of water and put a lid on the pan. I close the solar cooker leaving it in the sunshine to begin cooking the brown rice, part of what will be my evening meal.

Since it is summer, I worked up a little sweat during the bike ride. After getting the solar cooker set up, I stripped down and wade into the lake to cool off. After laying in the water for a couple of minutes, I put the beach chair, that I keep near the edge of the lake, into the water and sat in the chair with the water just below chest level.

Sitting in the beach chair, looking out over the calm lake, I was reminded of some of the wonderful times we have had on trips, where I am able to sit and relax at the edge of a nice hotel pool. Sitting in the lake this morning, with the early morning sun reflecting off the surface of the water is just as refreshing and relaxing (at least to me, if not more so since there are no other people around making noises) as any of the hotels or resorts I have been to.

I get out of the beach chair and float on my back in the water. Looking up I see three towering pine trees and their dozens of branches against a blue sky, dotted by billowing, white clouds mixed in. Looking up at a pine tree from the lake or from a hammock, always gives me a different perspective than what I normally see. Sometimes, all it takes to better understand something is to look at it from a different perspective.

The pine trees on our property were there in 1985 when we purchased the land. They have stood towering over the landscape for all of these years, through each of the seasons, as well as numerous storms. Even though they cannot move (other than being very flexible in a strong wind), they are full of life. The pines host dozens of insects, lizards, birds, squirrels, and bats. They can even provide nourishment for humans and not just with pine seeds. Green long leaf pine needles can be cut into quarter of an inch long pieces and boiled in water, to make a delicious green tea, that is rich in vitamin C.

After getting out of the lake, I work on a pine straw basket while listening to an audio book. I weave pine straw baskets to give to friends and family as gifts. I am about half way through a basket I started 3 weeks ago. It is a simple functional design that I will use as a Christmas gift.

I decide who the basket is going to be given to, before making it. That allows me to think of that person as I make it. When I am done I can tell that person how many hours it took to make the basket and that I thought of them while I was making it.

I've made dozens of baskets over the years using pine straw from our property. Once I was making a large basket and our daughter turned it upside down and put it on her head. That gave me the idea to add a brim to the edge of the basket and make a hat out of it, which I did. It took 40 hours of work to make the hat, but I still have it and use it, years later.

An hour before lunch, I add water to my dehydrated veggies and mushrooms that I measured out earlier this morning. I also add salt and pepper to help season it, but the combination of mushrooms, and veggies (kidney beans, green beans, tomatoes, celery, onions, and zucchini) provide plenty of flavor.

I put it all in a black plastic bowl with a clear lid on top and place it in the sunshine. After an hour of sitting, the food is completely rehydrated and hot from the sunshine. I sit down for lunch and enjoy my veggie soup with another bottle of water while reading my Kindle and pausing now and then to listen to the sounds of nature all around me.

The soup is delicious. It is easy to store and prepare, inexpensive, and nutritious. It is my normal lunch most days of the week. I've been asked if I get tired of eating the same thing each day. I answer by saying if I do, I will switch to something else (as I have done in the past) like when I used to eat peanut butter on flat bread each day or at one point, bean sandwiches for lunch. I have been accused of not getting enough variety in my meals, but if I compare what I eat in a day to what others eat in

a week, I have as much or more variety in my daily meals as most people have in an entire week.

After lunch, I clean my dishes using rain water I collect and put the dishes in a five gallon bucket with holes drilled in the bottom to serve as a dish drain. Then I check on my brown rice in the solar cooker and reposition it towards the afternoon sun. I also set out a 7 watt foldable solar panel and charge one of my lithium batteries (used primarily for running fans and charging my phone and my Kindle). I set out two of my inflatable solar lights to charge them in the sunshine as well.

After taking advantage of the afternoon sun by cooking food and harvesting electricity, I stretch out in my hammock and grab my Kindle and another bottle of water and lay down to read. Reading after lunch often transitions into a nap (as it did today). I read very little of my book before drifting off for an hour of sleep. I use a different hammock for napping that does not have a tarp over it. I love waking up from a nap and the first thing I see is the blue sky above me.

After a nice refreshing nap, I go for a one mile walk to a nearby park on the lake taking another bottle of water with me (I seldom go anyplace without having drinking water - I think it might be an addiction of some kind). The park is deserted. Not another person is here. I have on my water shoes and wade out into the water. It is the same lake I kayaked on this morning. The lake is over 650 acres. Today the water is very calm, but a change in weather can change the surface of the lake very quickly.

It has the same smooth glassy surface now, after lunch, as it did this morning, because there is no wind. With a stiff wind on a big lake like this, waves can really toss a kayak around, but that is not the case today.

There is something about being outside, especially on or near a body of water that - calms the soul. The peacefulness of the lake can overpower even the most frantic mind. There have been times when the lake seems to speak to me, sometimes suggesting that I should relax and not think so much. I am often guilty of over thinking.

I walk home from the park and fill my 18 oz thermos cup with some cold homemade hard apple cider (see appendix for recipe). I return to the patio and set up an umbrella to supplement the shade from the trees. I plug in a small 5 volt usb powered fan that runs off of a portable battery. I turn on some of my favorite music and relax by the edge of the lake, while sipping cider.

I think about Harmony, my little piece of heaven on earth, and all of my sandbag creations. None of them were planned to come out the way they did. In fact, when I built my very first sandbag project, it was a simple 200 sandbag experiment, with no thought at all, of someday filling almost 4,000 bags for other projects.

Yet, even without a big, long term plan, I think it turned out pretty good. I sat there sipping cider, feeling the breeze from the fan blowing on me, while enjoying my music and thought - life is pretty good. It is even better because of Harmony. A day in Harmony costs very little money and it is just as relaxing and enjoyable to me, as

any resort or hotel I have been to. And the very best part is - it is in my own backyard!

After a nice hour of relaxing with some good cider and music, it is time to rehydrate some veggies to add to my rice. One of my favorite meals is rice and beans, but now and then I like to do rice (although sometimes I use quinoa instead of rice) and vegetables which is what I am eating tonight.

I add dehydrated tomatoes, spinach, mushrooms, and garlic to a bowl. After adding water, I snap a lid on the bowl and let it sit. After an hour (plenty of time to rehydrate the veggies) it is time to open the solar oven. I unzip the outer cover and using a cloth towel take out the hot, small pan of brown rice.

I take the rice to the table in my outdoor kitchen and combine it with the veggies. I add salt and pepper and mix it all up. The rice is always fluffier when cooked in a solar oven (and I think it tastes better). I sit down at the table and enjoy my evening meal. Delicious!

After eating, I wash all of the dishes and put them in the 5 gallon bucket to let them dry. I returned to the patio with a bottle of water and do a quick check of email and texts (answering a couple of texts I received).

Just after sunset, I put a beach chair on the sandbag dock and watch one of the best shows on the lake. At dusk most evenings, 15 to 20 large white egrets fly into our corner of the lake to roost for the night along with a dozen black cormorants and ahingas (snake birds).

By the time I sat down on the dock, 3 egrets were already perched in the cypress trees 300 feet away. Over the next 30 minutes 9 more white egrets arrived, usually flying solo or in pairs. They begin their decent 1,000' away with their flight path taking them right in front of our dock. They seldom flap their wings until they are ready to land.

The long graceful glide of these large, magnificent white birds at dusk is a thing to behold. They will fly in until it is almost dark. Some years as many as 40 or 50 have come to this corner of the lake each day. In the spring, as many as 20 youngsters will fly together as a flock and join their parents for the night, making the trees look like they are full of large white leaves.

After watching the egrets, I hang an inflatable solar lantern under the tarp, that is over the hammock by the edge of the lake. I retrieve the pillow and blanket from the storage closet in the sandbag Cabin and place them in the hammock.

I fill up two water bottles and leave one at the hammock for when I go to bed. I take the other bottle and launch the paddle boat, to enjoy the night stars and fireflies, in our part of the lake. I can see plenty of stars from our property, but out on the lake there are no trees to block what is an even better view of the stars.

Being out on the lake at night is a completely different experience than in the daytime. Birds are silent. Sounds from frogs and crickets fill the air. Depending on if the moon is out, it can be so dark, it is hard to see

in front of you, (I always have a flashlight near me when out at night).

After coming in from the lake, I brush my teeth and get ready for bed. I lay down in the hammock with my Kindle, a solar light, and a bottle of water. The hammock tarp is above me to keep me dry during the night, but I can still see stars in the distance, along the lower edge of the tarp. On the other side of the tarp, I can make out the sandbags from the Hut, the Cabin, the Bomb Shelter, and the decks.

I reflect back on the day, thinking - I didn't have a care in the world. Nothing bothered me today. I was not stressed over anything. I enjoyed what I ate today. I had plenty of exercise. I felt like I had plenty of energy and was never tired or drained. There is nothing that Kathy or I want or need that we do not have.

I caused no harm to anyone else today. I had the freedom to do the things I wanted to do today, and I did not restrict other people's freedom. And I did not do anything to another person today that I would not do to myself. Simple rules, for a rich and full life.

I was able to spend time marveling at the beauty of nature throughout much of the day. This morning, I was on a large lake in a kayak, where I looked down at the reflection of the clouds in the sky, on the calm surface of the water. I felt like I was in a magic kayak floating in the sky, with clouds appearing to float along the bottom of the kayak from the reflections of the sky on the water.

Earlier today, I was able to spend time watching ants (one of the most successful species on the planet) follow a few simple rules to create complex infrastructures and cultures, but still nothing like human beings have built.

I saw a mother fox and two young cubs sniff around the open area of the decks as I watched them while sitting on the deck of the Cabin porch. They had no clue I was watching them as they casually lingered within 30 feet of me before they disappeared into the woods.

I remember thinking how fortunate I am to be a human being. As much as I admire nature and marvel at the beauty of nature, I know it can be a harsh world. All creatures have to eat and I am grateful to be near the top of the food chain.

The whole day seemed … magical. Imagine building this place, this space, with little more than a bunch of sandbags or taking a piece of bamboo growing from the ground and making music with it. And I am but one human being. The scope and breadth of what humanity has achieved takes my breath away.

Today, I read books on a small handheld device called a Kindle that was powered from sunshine. It manipulated a bunch of ones and zeros to allow me to read another person's book that I purchased over this vast global network we call the internet. The accomplishments of humanity and our technology fascinate me.

The complexity of a modern city, air travel, the internet, our universities, factories, or even the logistical workings

of a cruise ship - overwhelm me. I marvel at the wonder of it all. Nature, humanity, our knowledge, and our relationships, not just to one another, but to the entire planet leaves me awestruck. What a grand day it has been. What a special gift it is, to be … alive.

Yes, I thought - I did not have a care in the world today and not a single thing bothered me. I was completely satisfied with the day, thanks in part, to a bunch of sandbags and the freedom to follow my own path. And so ends a typical day in Harmony, as I drift off to sleep.



Afterward

"Love the life you live. Live the life you love."
Bob Marley

What does a person really need for a good quality of life? Much of this book focuses on my path of subtraction (removing things not needed) and embracing simple living. Ultimately that practice brought me to a place where I was left with only things necessary for a good quality of life (for me).

Living in Florida, my list of things needed does not include what is necessary in colder climates. The preceding chapters discuss much of what is on my list. Here is a summary of what I consider necessary, for me, to enjoy a good quality of life:

- **Good Health** - For me good health comes from making sure I took good care of myself (by monitoring my diet, activities, entertainment, and sleep).
- **Water** - Access to clean water or water filters for lake, stream, or rain water is near the top of the list.
- **Food** - Primary food sources for me would be nuts, seeds, grains, beans, and dehydrated vegetables. These foods require no refrigeration. They are economical and easy to prepare to eat.
- **Cooking** - Some foods must be cooked. A solar cooker can cook food with free fuel. A small camp stove is on my list for cloudy days and only

needs small twigs. I would also add a small propane stove for added convenience (and a lighter). If necessary, I could use any of my cooking methods to boil water for drinking.

- **Sleeping** - My favorite place to sleep is a hammock. That does not mean I sleep in a hammock most of the time, but I would not be opposed to the idea. When sleeping outside in a hammock I would want a tarp to keep me dry. I also use air mattresses along with a pillow and blanket, or sleeping bag for colder temperatures.
- **Permanent Shelter** - A tent can provide shelter, but there are some weather conditions where it would not be adequate. Of course for me, I would list a sandbag structure for my shelter.
- **Electric System** - I consider electricity essential, if for no other reason than to give me access to the internet. To generate electricity, I prefer using solar panels. I used to use a 12 volt solar charger and battery, but now use only 5 volt chargers and lithium batteries. I also have a hand crank charger that can charge 5 volt batteries if no sunshine is available.
- **Lighting** - My lighting needs are easily met with LED inflatable lights, LED bulbs powered by 5 volt batteries, and small flashlights.
- **Internet** - I consider the Internet to be a necessity for a good quality of life. It not only gives me access to information on any topic, it also provides daily weather, current events, access to bitcoin, online shopping, entertainment, and communications with family and friends.

- **Smartphone** - A smartphone makes my list, not because of using the phone for voice calls, but because it can connect me to the internet, play music, take photographs, provide maps, and run a variety of apps. I prefer a laptop to connect to the internet, but could make do with only a smartphone.
- **Ebook Reader** - I list the Kindle as a separate necessary device from the smartphone (which can run a Kindle app and serve as a reader) simply because of how easy it is to use, readability (in both daylight and night), and long battery life.
- **Clothes** - When in Harmony, my clothing needs are minimal most of the year. Even when going out in public, a wardrobe with a few shirts, shorts, socks, underwear, canvas sneakers, and water shoes are all I need most of the time.
- **Seating** - My primary chair is a cloth folding chair. I would also add a beach chair, patio chair, and zero gravity chair to the list.
- **Transportation** - I consider a bicycle to be necessary for trips to the store, visiting, and enjoying rides around the neighborhood. The transportation list also includes a good kayak (and life jacket and paddle). There are three parks scattered around the lake we live on and the kayak will take me to any of them as well as allow me to enjoy going out on the lake each day. And I should also add, walking is a good way to travel.
- **Music** - I cannot imagine a good quality of life without music. This not only includes my favorite mp3 files, but also my bamboo flutes.

- **Tools** - For this list I include a good knife, saw, shovel, ax, hammer, screwdrivers, pliers, wrenches, allen wrenches, vice grips, and basic tools used for making flutes.
- **Miscellaneous Items** - This list would include electric fans (5 volt), water bottles, cups, bowls, a pan, a spoon, a table knife, hair brush, combs, scissors, toilet paper, duct tape, bug spray, anti itch cream, rope, hat, first aid kit, small telescope, clothespins, resealable plastic bags, and digital storage (sd cards, flash drives, or external hard drive).

The above list is not all inclusive. There are some luxuries like refrigeration and an automobile that are big parts of my life. And there are things like daily quiet time and relationships with others that should be included. Some people might think I would be happy living a hermit lifestyle, but the reality is - we all need other people in our lives. I am grateful for my family and friends and the many ways they make my life better. My intent for the above list was to try and itemize the things I use when I am living in Harmony. I have found, I can have a good quality of life using the above list when enjoying my sandbag world.

My quest to learn what kind of shelter could support a good quality of life led me to sandbags and eventually to writing this book.

I suppose some people might wonder why a person would fill almost 4,000 sandbags. They might even think I am crazy for doing it. I like to think I march to the

beat of a different drummer, even when what I hear is not the same beat other people hear.

My mother gave me a small plaque when I graduated from high school. It had a quote from Ralph Waldo Emerson that said, “Do not go where the path may lead, go instead where there is no path and leave a trail”.

I’d like to think, I have done just that.

I have appreciated the freedom I’ve had to do that and to build Harmony over the years. I am thankful for Kathy’s understanding and tolerance as I dug holes on our property and filled sandbags. We have always given each other plenty of freedom, which is one of the reasons our marriage has survived more than 36 years. I still wear dog tags around my neck that say “Suum Cuique” (to each his own). I guess you could say I am passionate about giving people freedom to follow their own path.

Even though my path has been different than most, I’m nothing special. I’m just as human as anyone else. I’ve made many mistakes along the way, such as the times when I’ve said things to people I later regret or the times when I’ve been completely self absorbed. In spite of my many shortcomings, I have to say: I have a deep sense of pride when I look at my sandbag creations.

I am very satisfied with my life in Harmony

I hope you have enjoyed reading about my sandbag projects and my journey to simple living. Perhaps it might inspire you to see what can be done with a few

sandbags, some dirt, and a shovel. At the very least I hope it raises an important question for you: *do you have the freedom to enjoy life in your own Harmony*?

Appendix

The following appendix has information on how much each project cost, how long it took to build, and how many sandbags were used. It also has different menus I've used over the years with costs, calories, protein, carbohydrates, and fat data. I've included many of my favorite and most used recipes in the appendix as well.

Appendix A:

Statistics

After building the Hut, I kept a spreadsheet log for the remainder of my sandbag structures. At the end of a day of working on the projects, I would log how many bags I filled and how many hours it took. I also logged all of my costs, including pvc pipe and lumber costs.

The table below shows some of the statistics for the projects in Harmony. The sandbags were purchase in bulk, reducing the cost per bag. I rounded off the number of bags for each project to make it more readable.

Structure	Bags	Months to Build	Actual Hours	Total Costs
The Hut	200	3	70	$75
Decks	100	6	30	$50
The Cave	1,000	9	205	$1,588
The Cabin	750	12	120	$1,056
Docks	50	4	20	$25
Bomb Shelter	1,000	24	80	$750
Guest Hut	500	5	90	$442
Totals	**3,600**	**63**	**615**	**$3,986.0**

Appendix B:

Daily Menus:

I have kept a spreadsheet showing what I eat each day, since becoming a vegetarian in 2005. The menu has changed a little over the years, but not much. Then I began learning the food pyramid is not based on real science, nor does it reflect current data from the best nutritional studies.

After reading Gary Taubes, Dr. Aaron Carroll, and Nina Teicholz, I realized what I thought had been the best nutritional guidelines from the USDA was not the diet I wanted. I reduced my total calories from carbohydrates and increased my total fat calories, while still remaining a vegetarian. But to increase fat calories meant returning to eating eggs and cheese daily.

The table below shows the daily calorie totals (along with costs and grams of protein, carbohydrates, fats, and sugar) for a typical day using menus from my spreadsheets. The percentages in blue show the percentage of daily calories for each of the 3 macronutrients.

After reading Taubes and Teicholz, I reduced my daily sugar consumption along with carbohydrates, while increasing dietary fat.

Typical daily calories over the years:

	Cost	Calories	Protein (g)	Carbs (g)	Fat (g)	Sugar (g)
Current	$4.39	1,715	91	89	115	10
			21%	20%	59%	
2017	$5.45	1,948	73	293	67	33
			14%	57%	29%	
2012	$3.55	1,587	72	250	54	32
			16%	56%	27%	
2007	$3.01	2,125	93	328	75	72
			16%	56%	28%	

Below are menus from the years 2017, 2012, and 2007 showing costs, calories, and grams of protein, carbohydrates, fats, and sugar, along with percentage of daily calories for each macronutrient, for a typical day. See Chapter 7 for my current weekday menus.

Typical Daily Menu 2017:

	Cost		Cal	Prot	Carbs	Fat	Sugar
2017				14%	57%	29%	
	$5.45		**1,948**	**73**	**293**	**67**	**33**
Breakfast	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**

.5 cup dry	$0.29	oatmeal	170	6	28	3	1
2 tbsp	$0.21	chia seeds	120	4	10	8	
2 tbsp	$0.21	ground flax	70	2	4	5	
2 tbsp	$0.10	raisins	60		16		7
	$0.81		**420**	**12**	**58**	**16**	**8**
Lunch	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
2 cups	$1.81	kidney beans, green beans, tomatoes, celery, onions, zucchini, and mushrooms	78	6	27	0	2
	$1.81		**78**	**6**	**27**	**0**	**2**
Snacks	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cups	$0.10	sprouts	10	1	1	0	0
.25 cups	$0.24	soy nuts	140	10	10	7	0
.25 cups	$0.47	mixed nuts	170	6	5	15	1
2 tbsp	$0.17	peanut butter	190	7	8	16	3
10 pcs	$0.18	tortilla chips	140	2	20	6	0

2 pcs	$0.20	graham crackers	130	2	24	4	6
8 oz	$0.43	v-8	50	2	10	0	6
2 pcs	$0.30	prunes	40	1	10	0	6
	$2.09		**870**	**31**	**88**	**48**	**22**
Supper	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cups dry	$0.24	kidney beans	200	16	42	0	1
.5 cups dry	$0.50	brown rice	380	8	78	3	0
	$0.74		**580**	**24**	**120**	**3**	**1**

Typical Daily Menu 2012:

	Cost		**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
2012				16%	56%	27%	
	$3.55		**1,587**	**72**	**250**	**54**	**32**
Breakfast	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cup dry	$0.23	oatmeal	170	6	28	3	1
1 tbsp	$0.08	ground flax seed	35	1	2	3	0
.25 cup	$0.09	raisins	60	1	16	0	14
	$0.40		**265**	**8**	**46**	**6**	**15**

Lunch	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
2 slices	$0.24	whole wheat bread	140	6	26	2	2
1 ea	$0.83	homemade veggie burger	172	10	23	8	5
2 tbsp	$0.09	mustard	0	0	0	0	0
	$1.16		**312**	**16**	**49**	**10**	**7**
Snacks	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cups	$0.08	sprouts	10	1	1	0	0
.25 cups	$0.19	soy nuts	140	10	10	7	0
1 oz	$0.42	mixed nuts	170	6	5	15	1
1 oz	$0.68	cashews	160	5	9	13	2
8 oz	$0.38	v-8	50	2	10	0	6
	$1.75		**530**	**24**	**35**	**35**	**9**
Supper	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cups dry	$0.10	pinto beans	180	16	42	0	1
.5 cups dry	$0.14	brown rice	300	8	78	3	0
	$0.24		**480**	**24**	**120**	**3**	**1**

Typical Daily Menu 2007:

	Cost		Cal	Prot	Carbs	Fat	Sugar
2007				16%	56%	28 %	
	$3.01		**2,125**	**93**	**328**	**75**	**72**
Breakfast	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cup dry	$0.14	oatmeal	170	6	28	3	1
.5 cup	$0.50	mixed fruit cup	60	0	19	0	17
8 oz	$0.05	soy milk	70	7	11	4	7
	$0.69		**300**	**13**	**58**	**7**	**25**
Lunch	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
4 slices	$0.32	whole wheat bread	240	12	52	4	4
6 tbsp	$0.60	peanut butter	630	21	24	48	12
1 cup	$0.16	puffed kamut wheat	50	3	11	0	0
1 pcs	$0.06	hard boiled egg	75	7	0	5.3	0
	$1.14		**995**	**43**	**87**	**57**	**16**
Snacks	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**
.5 cups	$0.10	sprouts	10	1	1	0	0
.25 cups	$0.24	soy nuts	140	10	10	7	0
9 pcs	$0.60	prunes	200	2	52	0	30
	$0.94		**350**	**13**	**63**	**7**	**30**
Supper	**Cost**	Desc	**Cal**	**Prot**	**Carbs**	**Fat**	**Sugar**

.5 cups dry	$0.10	pinto beans	180	16	42	0	1
.5 cups dry	$0.14	brown rice	300	8	78	3	0
	$0.24		**480**	**24**	**120**	**3**	**1**

Appendix C:

Recipes

Hard Apple Cider:

What you will need:

- Two 96 oz plastic bottles of Great Value 100% Apple Juice from Walmart.
- Two balloons (used as air locks).
- One package of Wine or Champagne Yeast (I use - Montrachet Red Star for Wine Making - available on Amazon).

To begin fermenting:

- Remove lid from Apple Juice. Pour ½ of the yeast package in each bottle of apple juice.
- Secure the bottom of a balloon around the mouth of the apple juice bottle.
- Use a pin (needle) and poke a couple of holes in the balloon (this will allow CO2 to escape and prevent air borne contaminants from getting inside the bottle).
- Move bottles to dark area at room temperature.
- Wait four days (or longer depending on tastes).

After about 24 hours the balloon should stand upright and will remain erect during the fermentation process. After 3 to 4 days the balloon should go limp signalling the fermentation is complete.



After 4 days “cold crash” the bottles of apple juice by placing them in the refrigerator for 24 hours. This will kill the yeast and allow it to settle at the bottom of the bottle.

Remove and discard the balloons. Pour off the hard apple cider into clean bottles (I use 20 oz mason jars) being careful not to use the juice from the bottom ½ inch of the bottle where all of the yeast has settled (it can impact the taste a little).




If you use 20 oz mason jars, the two bottles of apple juice will fill 8 jars. Put the lids on the jars and throw away the empty apple juice bottles.

I use the wide mouthed 20 oz mason jars because they are easy to clean and reuse. Although any clean container can be used.

Veggie Burgers:

Ingredients:
1 cup brown rice flour (I use a hand grinder and grind my own. You can probably use whole wheat flour).
3/4 cup water
1 cup of cooked rolled oats (oatmeal)
1 cup of dry rolled oats
1/2 cup of ketchup (vary amount to taste)
3 tablespoons of chia seeds
1 cup dehydrated veggies (carrots, onions, tomatoes, peas, celery, green bell peppers, green beans, and parsley) premixed and purchased from Harmony House.

Mix the water and rice flour first. Once mixed add the cooked oatmeal and chia seeds and mix.

In a separate bowl rehydrate the veggies (I add 1 cup of water to one cup of veggies). Heat in microwave for 1 minute and let sit for 15 minutes.

Next, to the mix of rice flour, water, oats and seeds - add dry oats, ketchup, and veggies (do not drain excess water) and mix thoroughly. After mixing let sit for 15 - 30 minutes to allow the dry oats and chia seeds to absorb the moisture. Form into patties and fry in olive oil on either side.

For different tastes, add mustard, taco sauce, or other condiments with the ketchup.



Yaupon Tea:

Pick 3 cups of green yaupon leaves (small twigs are okay, but remove any of the round berries that may get mixed in.

Spread leaves on a baking sheet. Heat in oven at 350 degrees for 12 minutes or until dry and brown.

Store leaves in an airtight container until used.

Crush a pinch full of leaves into a tea ball or an empty tea bag. Soak in a cup of hot water straining tea ball (or bag) to desired tea darkness.

Note: Yaupon is the most caffeinated plant in North America, but it only grows in the southeastern United States (primarily along the Gulf Coast). Yaupon tea can be purchased online from a variety of vendors.

Peanut Butter Balls:

Ingredients:
1 cup brown rice flour (I use a hand grinder and grind my own. :)
3/4 cup water
1 cup of cooked oats (oatmeal)
1 cup of dry oats
1 cup of peanut butter
2 tablespoons of chia seeds
1 tablespoon of honey

Mix the water and rice flour first. Once mixed add the oatmeal and mix.

Next add dry oats, peanut butter, chia seeds, and honey and mix thoroughly. After mixing let it sit for 15 - 30 minutes to allow the dry oats and chia seeds to absorb the moisture.

Roll into balls (about 1” in diameter) and place on a baking pan/sheet.

Bake at 350 degrees for 10 minutes. Flip the and bake for another 10 minutes.

Flat bread:

Ingredients:
4 cups whole wheat flour
.25 cup olive oil
1.5 cups warm water
1 tsp sea salt

Add salt, olive oil, about 2 cups of flour, and about 1 cup of water and begin mixing. As flour is mixed in add more flour. Add more water as needed until all the flour and water have been added and mixed. Takes 5 - 10 minutes.

Remove from bowl and place on lightly floured surface and knead. While kneading keep surface lightly floured to avoid dough sticking to surface. I knead for about ten minutes. I press the palm of my hand into the dough, fold it back on itself and turn 90 degrees and repeat the process until the ball of dough becomes stiff and well mixed. After about ten minutes of kneading place the ball of dough into an airtight container or plastic bag for an hour or more.

Place ball of dough on counter or flat surface and divide in half, then divide remainders in half, then divide

remainders in half, then divide remainders in half, then divide remainders in half giving a total of sixteen small balls of dough. Using a lightly floured rolling pin roll out to thin circles (about 7 to 8 inch diameters).

Place in dry skillet on medium heat for about 10 seconds. Flip and cook other side for about 10 seconds. Remove from skillet and let cool.

Cornmeal buns:

Ingredients:
1 cup of Pam precooked white cornmeal
1 cup of water
1 tsp of salt

Add cornmeal and salt in a mixing bowl and mix. Begin adding water and mixing until consistency of moist playdough. Roll into 4" diameter flat disks about .25" thick (should make about 4).

Place in a dry skillet on medium heat for 2 - 3 minutes. Flip and cook other side for 3 minutes. Let cool.



Black bean burgers:

Ingredients:
1 cup cooked black beans
1 cup cooked brown rice
1 cup cooked oatmeal
3 tbsp chia seeds
1 cup dry rolled oats
1 tsp chilli powder
1 tsp garlic powder
Ground pepper
Ketchup
Taco sauce

Mash black beans in a large bowl. Combine brown rice and mash again and mix rice and beans.

Add cooked oatmeal and chia seeds and mix (if oatmeal is dry, may need to add water to moisten the chia seeds.

After mixing well add dry oats, chilli powder, garlic powder, and a dash of pepper.

Add ketchup and taco sauce (sometimes I also add mustard). The amount of ketchup and taco sauce is probably about 1 cup. As I mix it all together, if it seems dry I add more ketchup and taco sauce. (If it is too moist, I add more dry oats).

After mixing, let it sit for 15 - 30 minutes to allow the chia seeds and oats to absorb some of the moisture.

Patty and fry in olive oil. This makes about 8 burgers (less if you make them really thick).



Veggie Soup with Cheese:

Ingredients:
1 cup of dehydrated Harmony House Italian Vegetable Soup Mix
.5 cups dehydrated mushrooms
1 cup of water
.5 cups of shredded cheddar cheese
Salt and pepper to taste

Combine mushrooms and soup mix in bowl. Add salt and pepper to taste and mix while dry. Add water and let sit for 30 minutes.

Heat on medium heat for 5 - 10 minutes. Stir in shredded cheese and heat an additional 3 minutes. Remove from heat and let cool.



Pinto bean bread:

Ingredients:
.5 c honey
.25 c canola oil
1 c mashed beans
.5 c warm water
1 egg (or an egg substitute)
2 c whole wheat flour
.5 teaspoon salt
2 teaspoons baking powder

Mix all ingredients together in a bowl in the above order. After mixing put in bread loaf pan (sprayed with pam or oiled). Bake in oven for 45 minutes at 350 degrees.



Potato Stew:

Ingredients:
3 - 4 medium sized diced potatoes
1 can of diced tomatoes
2 sliced carrots
2 vegetable cubes
1 tbsp chili powder
2 cloves minced garlic
1 cup dry veggie mix: split peas, barley, lentils, spinach, tomato, celery, onion, beets, ...
.5 cup vegan noodles (optional)

Wash and dice potatoes and place in pan (I use a 9' pan when using the solar cooker or a crockpot). Cover potatoes with water. Add sliced carrots, vegetable cubes, garlic, and chili powder. If cooking in the crockpot I let this cook for 6 hours before adding the veggie mix or noodles and then cook for another hour or two. If solar cooking I add all the ingredients at once and cook all day in sunshine.

This makes 8 - 9 cups of potato stew. I divide into separate 2 cup airtight containers and store in the refrigerator or freezer to be reheated for a complete meal. Usually the day I cook the batch it will also be a meal for both me AND Kathy. She will join me in eating potato stew for supper.

I add .25 cups of roasted soy nuts to each bowl of potato stew to give it additional texture and nutrients.

Wheat Meat:

Ingredients:
2 c gluten flour
.5 c soy flour
2.25 c water (flavored with vegetable broth/cubes)
1 tbsp olive oil
1 tsp salt
1 tsp pepper
Other seasoning optional

Mix all ingredients together. Roll flat with rolling pin and cut into desired sizes with pizza cutter. Bake at 350 for 20 minutes or fry in olive oil until brown on each side.

Chocolate Wheat Pudding:

Ingredients:
.75 c whole wheat flour
2 c cool water
.5 c honey
.5 tsp salt (optional)
.25 c cocoa

Mix ingredients and bring to boil - whisking constantly until thick (about 2 minutes). Stir in

.5 tsp vanilla extract
.5 c chopped nuts (optional)

Spoon into serving size cups and let cool and server or refrigerate for later use.

Vegan Waffles:

Ingredients:
1 cup flour
1 cup soy milk or water
1 tbsp oil
1 tbsp baking powder
1 tbsp maple syrup

Whisk ingredients together, pour into oiled waffle iron, cook on medium heat until steam starts coming out sides of iron, that means they are ready or close to being ready. Can also be used for pancakes.

Makes 6 med size pancakes.

Chicken Soy Patties

Ingredients:
1 c brown rice flour
1 c dry oats
1.5 c soy flour
1.5 c water flavored with 4 cubes bouillon
1 tsp salt
1 tsp pepper
1 tsp olive oil
.5 c cooked oats

Mix all ingredients together until well mixed. Let stand in bowl for 30 minutes then form into patties. Bake at 350 degrees for 30 minutes or fry in olive oil on each side until golden brown.

Spinach Burgers:

Ingredients:
.25 cup olive oil
1 clove garlic, minced
1 teaspoon dried oregano
1 teaspoon dried dill weed
1 cup herb-seasoned stuffing mix
2 eggs, lightly beaten
110 ounce frozen chopped spinach, thawed and well drained
.5 cup feta cheese, crumbled (2 ounces)

In medium bowl combine oil, garlic, oregano, dill weed, and 1/4 teaspoon black pepper. Stir in stuffing mix to coat thoroughly. Stir in egg, spinach, and 1/2 cup crumbled feta; mix well. Shape into four 1/2-inch-thick patties.

Heat a griddle or large nonstick skillet over medium heat. Add patties. Cook for 3 to 4 minutes per side or until browned and heated through.



Mushroom Jerky:

Ingredients:
.5 cup soy sauce
.25 cup Worcestershire sauce
.5 teaspoon liquid smoke flavoring
1 teaspoon hot pepper sauce (e.g. Tabasco™), or to taste
1 teaspoon garlic powder
1 teaspoon onion powder
.5 teaspoon black pepper
.5 cup brown sugar
4 portabella mushrooms

Stir together soy sauce, Worcestershire sauce, liquid smoke, and hot pepper sauce in a bowl. Season with garlic powder, onion powder, pepper, and sugar; stir until mixed.

To use, take portabella mushrooms and thinly slice mushrooms with the marinade until well coated. Place into a resealable plastic bag, and squeeze out the air. Marinate in the refrigerator for 48 hours, mixing twice.

Remove mushrooms from marinade, and discard excess marinade. Place on dehydrator at 120 degrees for 9 hours. Remove mushrooms and place in small sandwich bags.





Appendix D:

Historical fasting blood work data:

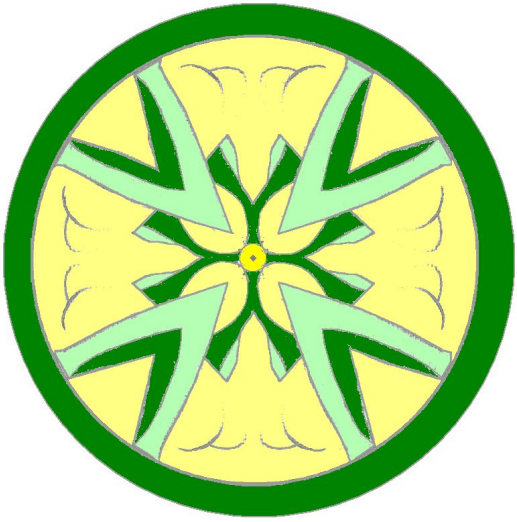
	2007	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Cholesterol	179	195	178	176	180	170	180	152	192	202	174
LDL	110	114	95	85	76	94	76	69	105	93	78
HDL	63	66	65	74	89	76	79	68	76	100	83
Triglycerides	52	73	91	84	74	48	74	75	57	44	63
Glucose	NA	90	86	85	98	92	89	93	82	93	95
HDL Triglyceride Ratio	**0.83**	**1.11**	**1.40**	**1.14**	**0.83**	**0.63**	**0.94**	**1.10**	**0.75**	**0.44**	**0.76**

Appendix E:

MIA

Managing Internal Awareness

"I have often regretted my speech, never my silence."
Publilius Syrus (~100 BC), Maxim



In 1996, I created the above meditation mandala as a way to help me focus when meditating. There are different ways to help prevent our minds from wandering. Mandalas, candles, incense, chanting, music, and using breaths all help us manage our attention. Models can also be added to the list.

Writing in "The Grand Design", published in 2010, Stephen Hawking and Leonard Mlodinow suggest how valuable models can be to help us understand reality. They coined the term "model-dependent realism" to show the value of a model is its usefulness. Different

models allow us to work with different levels of reality. That does not mean we treat the model as reality. The model only helps to represent what is known about reality.

MIA (Managing Internal Awareness) is my own fabricated model to help me stay mentally focused. The model helps reduce anxiety and fear of the unknown. It helps me view life from different perspectives. It reminds me to monitor my mental health on a daily basis.

Normally, I stay distracted throughout the day. Without conscious effort, my mind tends to run on “autopilot” but thinking of the MIA model during the day, helps me manage my attention and reduces the amount of time I spend on autopilot.

Over the course of time, I have found value in specific techniques, or tools that I use to help me manage my awareness. I use 9 graphical images to represent each of the 9 “tools” or control points used in my MIA model. I like the graphical images because sometimes my brain can focus on an image much better and faster than words.

At times, I imagine myself in a control room like you would find at a power plant. Other times, I imagine I am a captain on the bridge of a starship. I visualize the graphical images as lights on a panel in front of me, allowing me to press one of the images to monitor and control my thoughts.

I created a website for MIA using the 9 images (http://hosttg.com/mia/mia.html). If I click on one of the 9 images from the website, it plays an mp3 audio file assigned to that image. I used a text to speech reader to record an audio file for each of the 9 tools in the model. This gives me quick and easy access to the MIA model from both my phone or the computer.

Listening to the mp3 audio files via my website is almost like listening to self hypnotic suggestions. For example: “Breathing is something you always do, even without giving it any attention. But when you do pay attention to your breathing, you will immediately find yourself, relaxing.” When I hear that, my brain becomes primed to relax when I focus on my breathing.

I try to begin each morning, in silence, thinking of each of the 9 tools. I mentally envision the 9 images and repeat the word for each image (the label for each of the images). Some days one specific tool might stand out and stay in my mind throughout the day. Other days, I may use any one or combination of the 9 tools.

I use MIA the most when I feel stressed, disoriented, or anxious. Usually one of the 9 tools will help me to focus and provide a sense of calmness.

Leonard Mlodinow wrote one of my favorite books, “The Drunkard's Walk” where he emphasises the role of randomness and the dominance of the bell curve. Our cognitive biases often lead us to misinterpret random events in our lives. By using a useful model (such as MIA), I try to counterbalance my tendency to assign

meaning to a random event, by keeping my attention grounded in multiple ways of viewing reality.

By trying to stay focused on my MIA model each day, I am reassured of the lessons I've learned over the years as well as providing my mind with specific tools to stay focused and avoid innate cognitive biases.

Here is a list of the 9 tools and controls, I use in my MIA model. Some of them are active techniques I use, others are simply reminders of lessons learned over the years, from experience. All of them, help me manage my awareness.



Mindfulness - By managing your attention, you can choose what you give your attention to, as well as what you do not. You engage in many different activities each day, often without giving them any attention at all. By managing your attention, you can become mindful

whether you are meditating or kayaking or doing any activity.

Breathing - Breathing is something you always do, even without giving it any attention. But when you do pay attention to your breathing, you will immediately find yourself, relaxing.

Condition - Take time to check your condition. Pay attention to your different states of being throughout your day.

Senses - You can adjust the attention you give your senses anytime. Pay attention to your senses to learn how to watch yourself and the world around you.

Perspective - You can quickly change your perspective in time, by thinking of the past or of the future. You can always bring your attention back to now and this present moment. You can also use knowledge and information to change your perspective of space, both at a macroscopic level and a microscopic level. Atoms are made mostly of space as is the universe.

Emotions - Pay attention to fear, anger, and sadness. By giving your emotions some attention, you can reduce stress levels caused by negative emotions. Let visions of the future be full of joy and peacefulness.

To Do List - There is always a to do list. Keep it short and give it attention when necessary, but do not constantly dwell on things that need to be done. Remember to keep the fun things near the top of the list.

Roles - You have many roles in your life. Everyone wears a mask at different times. Remember to use your imagination to view your life and your day, as if it were a play or a movie and you are in the audience watching. Sometimes you may imagine who is in the audience also watching you play your role.

Reality - Reality, it is what it is. Pay attention to your rules, your activities, your habits, and your routines. Give attention to desires and things that bother you. Once you focus your attention, you can change, reduce, or eliminate what is unwanted.

I go into what I call “MIA mode” multiple times during my day. When in MIA mode, I have a mental bridge where only certain thoughts (usually those related to one of the tools in the MIA model) are allowed to cross the bridge to a place where I will dwell on those thoughts. I simply let go of other thoughts that may surface.

I might use some of the tools like “senses”, “perspective”, or “emotions” to adjust the awareness of that particular tool and bring a sharper focus to it. For example, I might adjust my senses and shift my focus from thinking, to paying more attention to senses like hearing or touching.

While MIA is a convenient model for me, I also see it as a set of internal instructions for my brain. I think we have a natural tendency to try and figure things out. When our brains are left on autopilot, which is often the

default mode for me, I am constantly evaluating all of the current inputs as well as my day and life in general.

By going into MIA mode, I provide my brain with boundaries and clear instructions. It quiets my mind and allows me to … listen. It also enables me to become mindful throughout much of my day. Instructions provide my brain with directions that I have found valuable and reduce the amount of time I am on mental autopilot.

Life is filled with coded information (instructions). Perhaps one of the things that draws me to understanding computer code are the similarities computer code has to the code of life. The code of life has been with us as long as life has existed. Richard Dawkins wrote “The Selfish Gene” in 1976. Since then he has suggested a better title may have been “The Immortal Gene”. Code too, is immortal.

And just as the code of life has instructions for all creatures (which do not have to be verbalized to be followed), I think the Internet gives us additional instructions (from the accumulation and availability of knowledge, science, and the experience of others).

There is nothing unique or special about my MIA model. There is no reason it has 9 tools rather than 12 or 8. I simply find the 9 tools work well for me. Someday I may change the tools or stop using them, but for now, using MIA helps me focus my awareness. It is a way for me to listen and be open to daily guidance.

MIA serves as both a model and internal instructions to heighten my awareness, to be fully present in the moment, to maintain a broad perspective on time and space, to value critical thinking, to evaluate my condition, to be thankful for the gift of life, to relax and fully enjoy the present, to carve out silent spaces in life, and to better listen to that still small voice within.

Appendix F:

Sandbag Details

I used 850 denier sandbags for most of my projects. The higher the denier count of a sandbag, the thicker and stronger it is. If the denier is too high the bags can be too rigid and difficult to work with. Eventually, I switched to a 1350 denier sandbag that I purchased from BagsOsand on Amazon.

All of the sandbags I have used have always been 14 x 26 inches. The only 14 x 26 inch sandbags I use now are sandbags with a 10 x 10 weave, a double stitched bottom, 1600 hours of UV protection, and a 1350 denier count, which are much, much stronger than the 850's I used when building the original Hut.

I love the strength of the 1350 denier bags and will continue to use them for any future sandbag projects. They cost a little more than the 850 denier bags, but they are well worth it. In fact I like the sandbags from BagsOsand so much that I allow them to use some of my pictures and my name to promote their sandbags.

Sandbags can be used for many things, including landscaping, erosion control, flooding, weights, and of course shelters. Sandbags may not impact your life the way they have mine, but anyone can make something with sandbags, including you.