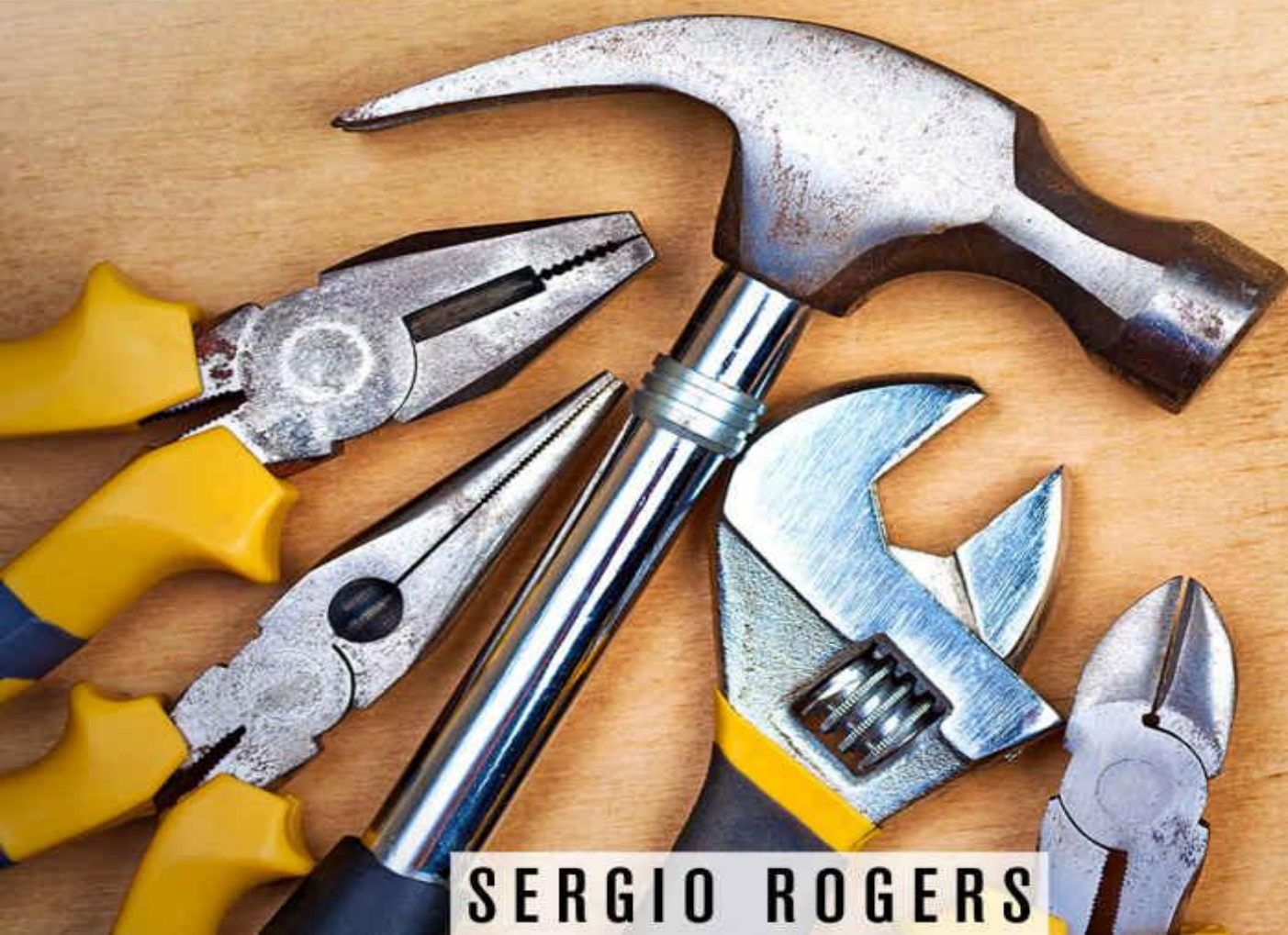


DIY PREPPER'S PROJECTS

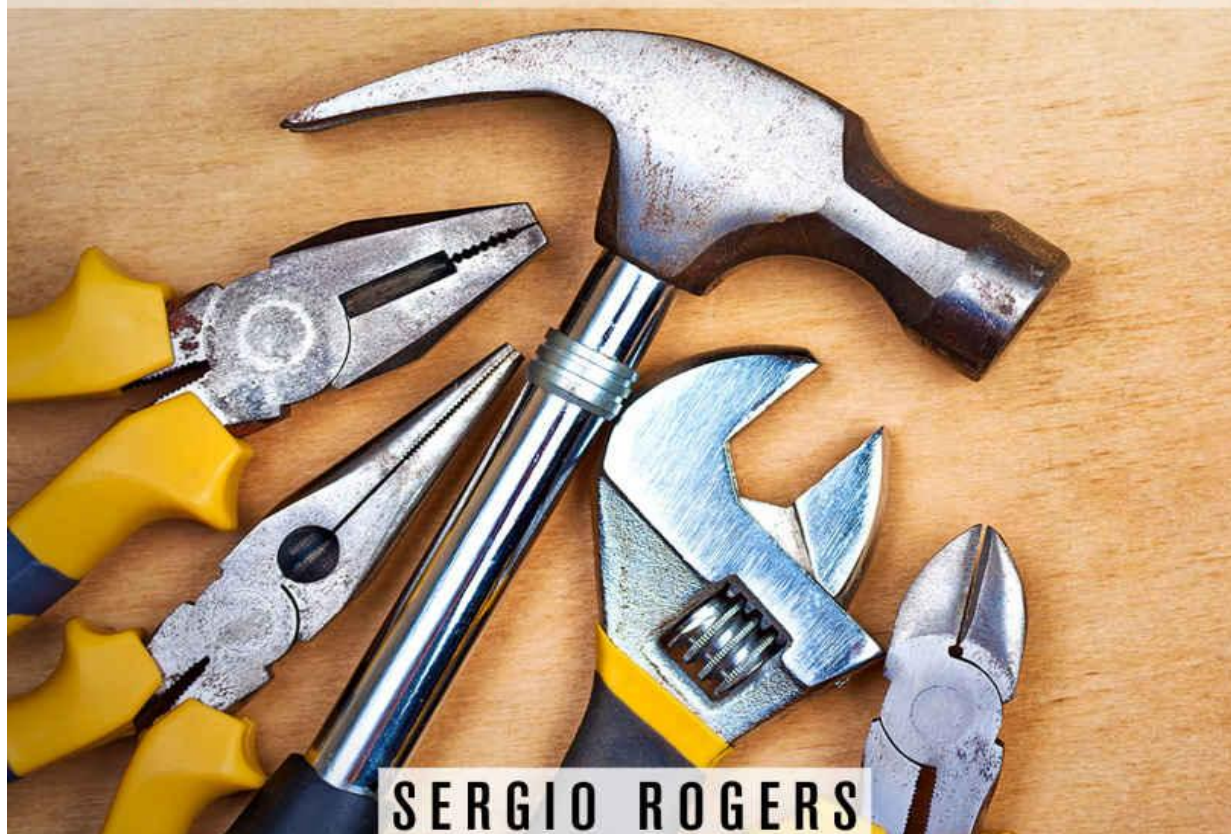
A One-Project-a-Week Guide to
Help You Prepare for an Emergency



SERGIO ROGERS

DIY PREPPER'S PROJECTS

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DIY Prepper's Projects

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Introduction



As a prepper, do you ever find yourself at a complete loss of how to prepare your home for an emergency or disaster? Do you want to try living a more sustainable life, minimizing resource and energy consumption, but you're not sure where to start?

This six-month guide will convert your entire home into an efficient, sustainable living environment. By working on one project a week, this book will guide you through rebuilding—or improving—your home. Whether you're a beginner prepper unsure of where to start or an experienced prepper looking for more direction, this guide is here to help.

Each month has been boiled down to just four projects a week, each designed to benefit the other. We believe in starting small and working our way up, interconnecting projects when necessary so that they can work together. As a bonus, we have also added two projects under each category, that are specifically related to emergencies, things that could be used right away, or when disaster strikes unexpectedly! These will increase the utility of this guide, as it not only builds a six-month prepper's dream plan, it includes details to keep you safer right from the start!

We'll show you ways to utilize the natural water of your area to the best of your ability—gathering rain, distributing it, transporting it, purifying it, you name it! There're gardens and heaters, air conditioning, and filters. We save you money with ways to utilize solar energy to your advantage and give you tips on how to survive without any resources at all, abandoned in the woods.

We'll also cover how to prepare your home for civil unrest and tips on storing food for the long term. And when night falls, we've got you covered with solutions for lighting up your home. We want you feeling prepared for anything. So as you work, week by week, feel free to explore the projects described here and learn as much as possible—learn how to utilize each one to its greatest advantage.

This guide is jam-packed with projects—24 of them to be exact. Over the next six months, you'll be able to work on one project a week and, within a half a year, be completely ready for any situation. No matter what level prepper you are, if you're looking for ideas, then look no further.

Projects are described thoroughly in a straight-forward manner. There's no confusing jargon, and no complicated projects that require an engineering degree to accomplish. We want everyone to be able to pick up this book and put to use the projects inside it; that's how strongly we believe in this project guide.

We hope you have a fantastic time over the next six months. Remember to be safe, use common sense, and, as always, stay prepared.

Good luck!

Bonus: Your FREE Gift



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Chapter One: Water Management



In this chapter, you will learn:

- How to construct a rainwater collection system
- Best ways to store water for the long term
- DIY water filter plans
- Distilleries for water purification

The Importance of Water

Water is probably the most important resource for any type of emergency situation. As a prepper, preparing yourself for a water shortage is one of the smartest things you can do. By constructing ways to gather, store, and purify water, you can extend your water supplies for weeks or—given the right weather conditions—indefinitely.

This chapter will outline four projects for a month (that is, one project a week). By the end of the four projects, you will be well prepared for any sudden loss of access to fresh water. However, we won't end here. Later in this book, we'll also discuss irrigation techniques (Chapter 3), passive water heaters (Chapter 3), and manual hand pumps (Chapter 5), all of which can be combined with many of the projects in this chapter. So let's begin with the first of many projects to come.

Week 1: Rainwater Collector



Collecting rainwater is one of the fastest ways to get access to fairly fresh and clean water. This is a great first project, as it's very simple to set-up and offers immediate benefits to the user. Rainwater harvesting can provide the user with their own water supply, independent of the city. This water can be used freely for any purpose and doesn't apply to water restrictions in counties that have them.

The major component of the rainwater collector is the cistern. Cisterns can be constructed from many different materials; cement, plastic, or wood are just a few options. However, the most economically viable option is plastic. Many people use new garbage bins or dedicated plastic water barrels for storage—both good solutions, yet they can store only so many gallons of

water. If you wish to store more, Intermediate Bulk Containers (IBCs) can be bought cheaply if used and can store more than 250 gallons of water!

Construction is simple. Using wood, build a raised and level pallet near the outflow of your gutter. Ensure the substrate beneath the pallet is solid enough to keep the extreme weight of the container supported without shifting—the same goes for your pallet strength, too. Raising it from the ground will also deter animals or insects puncturing your container over time.

Direct the outflow into your container using standard gutter piping. Ideally, you want to re-route every gutter so that the outflow goes into your storage tank. Because this is a natural environment, you can expect leaves, twigs, insects, and other detritus from your roof to flow into the cistern—as such, ensure the inlet to your cistern has **two screens**. The outmost screen can be standard *gutter guard* material, purchasable in small segments from any home improvement store. The inner screen should be a bug screen to keep mosquitos from breeding inside your cistern.

Lastly, the outflow of your water storage tank can be a simple garden hose. If your container doesn't have an outlet already, simply cut a hole at the base of your container and fit a garden hose faucet within. Use a silicone adhesive as well as a threaded nut (tightened from the inside of the container) to keep a tight seal.

Week 2: Bio-filter



Now that you have water piling up every time it rains, you need a way to utilize this water safely. It will, of course, be perfectly fine to use in gardening or even bathing. However, the water may or may not be potable. In order to make this water good enough to drink, you'll need to purify it. There is much water to do this: filtration, distillation, or even UV disinfection. In this week's project, we'll look at how to build a bio-filter.

A bio-filter works by using three distinct filtration layers, each filtering out decreasing particle sizes. The three layers are *gravel*, *sand* and *activated charcoal*. While the first two layers filter out medium to small particulates, the activated charcoal layer is perhaps the most important. This layer helps to filter out bacteria and some chemicals.

The best way to build the filter is to separate each layer into discrete, stacked buckets. You'll want to fill each bucket $\frac{1}{2}$ to $\frac{3}{4}$ full with the filter material. The topmost bucket is filled with gravel, the middle bucket is filled with sand, and the bottommost bucket is filled with activated charcoal.

Connect each bucket with PVC piping by cutting a hole through the bottom and tops of each bucket. However, this piping should block migration of material between buckets. Accomplish this by attaching tight-mesh fiberglass screen on the bottom of each pipe segment. (Simply place the screen on the end of a segment of threaded PVC pipe, and then screw a female adapter over top to hold it in place). Ensure the mesh is small enough to stop sand from flowing through—the exact size will vary depending on the type of sand you have available.

This filtration system uses gravity to draw water through it. Although slow, it is very effective and can treat many hundreds of gallons of water. For the final layer, attach some valve to the bucket as an outflow. Don't allow water to rest inside the bio-filter—shut off water at the top of the filter first, then allow it to drain fully before closing the valve for the outlet.

In emergency situations where activated charcoal cannot be bought, regular charcoal that has been ground can be a suitable replacement. The use of regular, powdered charcoal has been used in ancient times to help filter water.

Week 3: Distillery

As a prepper, it's good not to rely on one single method to accomplish any goal. In that vein, we'll look at another way to make water potable in a less passive way. That's where a water distiller comes in: it can make extremely unclean water safe to drink and can also make water even safer to drink than a bio-filter (albeit at the expense of time and energy).

A water distiller is essentially boiling water. However, instead of boiling, cooling, and then drinking the water, we instead boil the water, collect (*condense*) the steam and then collect the water which forms from that. In this way, contaminants are left behind in the boiling vessel.

To create a small-scale water distillery, start by using a pressure cooker. Remove the pressure release valve from the cooker—you may need to drill this valve out. Take several feet (four to six feet) of copper pipe matching the diameter of the hole left by the pressure release valve. Using a large painter's bucket, attach the copper pipe to the inner wall so that it spirals down—the end of the copper pipe should exit the bottom wall of the bucket. Be sure to seal around the pipe using silicone or similar. This copper pipe acts as a condenser and will be extremely effective if the bucket is filled with cold or ice water. Fill the pressure cooker, close it, and boil the water. Clean, potable water will drip at a slow rate from the end of the copper pipe as it condenses.

In order to process large amounts of water, we recommend using a large steel drum in place of a pressure cooker. You will want to use much wider piping in this case. Create the condenser by submerging the piping in water. As an alternative, longer piping can be used and cooled by air. Ensure the condenser has a continual slope downward.

Week 4: Water Storage

The last project for this month will be an easy one. After getting potable water, you may want to store it for future use. You will then have two storage tanks on your property—unpurified water and purified, which can be used as needed.

Similar to the rainwater collection system, use large reservoirs to contain the water. IBCs make very good containers. To prevent degradation in the sunlight, you can store these containers underground—using a pump to draw water from it. However, you can also store water above your house level and use it in place of water from the city. Gravity will help maintain water pressure throughout your house without need of a pump. Figure out the water pressure of the water entering your home from the grid, then store water at the appropriate height to deliver the same pressure.

Water Emergency Project 1: Commercial-Grade Storage

The previous tips provided information about means to gather, purify, and maintain a steady water supply. These are all spectacular, if you have the time and the tools to accomplish them. But the dangers of our world mean that sometimes, we are caught flat-footed, unprepared for a given emergency. From that standpoint, therefore, it is critical that we have some sort of effort we can take in advance of even the most dire and immediate threat.

It is true that a person can go much longer without food than they can without water. Thus, the most critical resource one must consider is good old fashioned drinking water.

Of course the earliest step one can take is to create an emergency storage facility, stocked with enough water to last through any emergency, water that is safe and accessible in short notice. So the first question one must consider, is how much water is enough?

When you are preparing your house for the end of time, you must first determine the likelihood that one would be short of water. If you are close to a body of running water it is not as imperative as it might be if you live in a drought-stricken area. In this case, one needs to consider putting aside as much bottled water as possible for each person that is in the house . A safe number of gallons per person will depend on your climate, but a general rule of thumb would be to have one gallon per person per day .

For this of course we are speaking of potable water, not gray or recycled water. Cleaning necessities or other uses for non potable water are not being considered in this total. Of course the storage of such high volumes of water can be problematic, so this is where our particular precautionary tip will come in handy.

If you have a crawl space or an attic these are particularly good places to store water as they tend to be cool dry and dark. Keep them together and use some form of camouflage to prevent would-be perpetrators from discovering their location.

One good way to protect such a stash of water would be to place the individual bottles inside of a plastic crate that you then cover with

aluminum foil to deflect Heat and conceal the contents.

Water Emergency Project 2: Eliminations Solutions

Another concern that should play into your preparations should be the sanitary removal of wastewater and other detritus from your living area. We have become a society completely dependent on a water supply and sanitation system like none other in the world. When things are working properly, we take for granted the bathroom facilities. While most would consider their internal household plumbing to be sufficient, remember that when the water pressure drops because the system is offline, then you will have to find not only new sources for potable water, you 's need alternate ways to dispose of the excrement and urine as well.

It may seem surprising but one of the best alternatives would be to keep in storage a considerable amount of kitty litter. This absorbent and pliable material not only is optimal for capturing wastewater and solid matter, it is a reasonable odor removal alternative as well. To be on the safe side, you will want to maintain a stock of 25 - 50 pounds of this material for all of its many uses including this one. If you have ample space, you may want to increase the storage of this material, because it serves other purposes as well, such as de-icing and moisture control.

Because of the toxic nature of human excrement, you will want heavy plastic bags for transport and burial of the material, if you stay on the Kitty Litter regiment for an extended period. These are not recyclable, so be sure to use biodegradable bags if possible.

Of course, the kitty litter alternative should be considered an emergency alternative and be sure you still remove the material from your living area regularly, adding new material to the process as necessary.

If you decide to build a practical latrine, make sure you take into account the direction of drainage. You will want the hole that you dig to create such a latrine to be at least 100 feet from the home and that the drainage elevation is drawing the waste water away from the house. The structure around the latrine should be kept free of excess water or solids and have at least a 4-foot by 4-foot by 2 foot soft bottom, to encourage adequate decay and dissolution. Utilize mosquito netting or other open and porous form to prevent the growth of grass or other plant life in the latrine. Such a structure

can extend the survivability of your location by six months to a year or more.

Chapter Two: Gardening Projects



In this chapter, you will learn:

- Easy ways to compost
- All about hydroponic systems
- How to prepare your garden for outdoor farming
- Self-irrigation projects

Providing Food for Your Home

This chapter is all about creating food when it's no longer viable to simply walk down to the store to buy some. It's recommended to begin these projects in the late spring so you can start immediately. If you've already completed the first month of projects, you'll also be able to use your rainwater collection system to irrigate your plants and use for the upcoming hydroponics system. Let's get started.

Week 1: Building a Hydroponic System



Although a hydroponics system sounds very futuristic and high-tech, it's actually quite straightforward. The earliest forms of hydroponics were actually built between 3,000 and 2,000 BCE! Today, we give more focus to the nutritional content of the water—that's something you can work on over time as an *on-going project*.

Choosing to use a hydroponic garden has some advantages over a regular one. The most important reason, however, is being able to grow vegetables all year round. For hydroponics, there isn't a growing season when you can control the room temperature and humidity levels.

Parts of a Hydroponic Garden

Hydroponic systems have the following parts:

- **Nutrient Reservoir:** This holds the nutrient-filled water. You can buy or make liquid fertilizer specifically for hydroponic gardening. This is an activity left up to the reader.
- **Water Pump:** The pump can be a simple one bought from any pet store and used in aquariums. This pump is used to pump water to the

plants but doesn't need to be heavy duty. A fountain pump can also be used.

- **Delivery System:** This is how the nutrient-laden water is actually delivered to the plant. We'll focus only on the simplest method here.
- **Holding Tray:** The holding tray will hold the plants in place and usually must be filled with water as well.
- **Plants:** The actual plant being grown. Tomatoes, though thirsty, are a good option. Lettuce is also a popular option.
- **Anchoring medium (optional):** Some systems require an anchoring medium for root structures that don't provide nutrients. We'll be building a garden that does not use an anchoring medium.

Building Your Deep Water Culture Garden

This technique is called "Deep Water Culture" or DWC. It's the quintessential method hydroponics and very easy to set up. We'll describe a single plant DWC system and a multi-plant system.

In a single plant system, purchase a large painter's bucket with a lid. This is your nutrient reservoir. Also purchase a netting pot which will contain your plant's root bulb—the roots themselves will go through the netting pot. Cut a circular hole in the lid of the bucket and insert the plant and netting pot. Fill the bucket with your nutrient/water solution so that the roots hang into the water but **ensure the root ball isn't submerged, or the plant will drown**. Lastly, buy an aerator from an aquarium store and place it inside the bucket—aerating the water is important to keep oxygen content high. Now simply place in sunlight or use a growing bulb.

A multi-plant system is similar. In this method, a large watertight tray is used. Fill it with water and place on top flat pieces of Styrofoam—these will support the plants and float along the top of the water. Cut holes into the Styrofoam for the root systems of your plants to dangle in the water taking care, once again, not to let the root ball get submerged. Also, make sure the entire tray's surface is covered in Styrofoam to cut down on evaporation (which can increase nutrient levels to dangerous levels). Lastly, use an aerator hose to run the length of the tray several times. They are also purchasable at pet stores and will keep the water aerated. You can also,

optionally, pump your nutrient solution from a reservoir into the tray, and then draw the tray back into the reservoir, keeping a constant water level.

Week 2: Compost Bin For Your Garden



In preparation for the upcoming garden project, you can take time now to create fertile soil for use outside. We'll do this by recycling organic material in a composter, one of the best ways to reduce waste around the house.

Composters are easy to use and maintain. This project will create a **compost tumbler** and is very straight forward in construction, has a small footprint, and requires less hands-on maintenance than compost piles.

To begin, purchase a 55-gallon plastic drum. Plastic is preferred to cut down on weight—composting also generates heat, which can heat up a metal drum. These drums can be bought online (usually bought as water storage) or bought second hand, especially from soda bottling companies—similar to the IBCs mentioned in the previous chapter.

Cut a square door into the side of the drum about a foot high and eighteen inches long. Reattach the door with hinges riveted or bolted into place. Some locking mechanism should also be employed. We recommend buying latches and attaching them like the hinges. You may want to reinforce the doorway by screwing wood around the inner edges—this will also provide support for the hinges and latches.

Next, you will need a length of thick PVC pipe about four inches in diameter. Cut a hole in the center of the top and bottom of the barrel. Before inserting the PVC pipe, sandwich each hole between two wooden blocks and cut another hole, matching the PVC pipe diameter, through this wood. These are intended to give structural support for the holes.

Once the PVC pipe has been inserted, you need to suspend the barrel. This is easily done by erecting a frame from 2x4's. We recommend creating an X-shape on either side so that the PVC pipe nestles in the crook of each stand, but any method works.

Drill holes into the composter for aeration and you're finished. Instructions for how to compost can be found online—a compost tumbler is very easy to use and you can begin immediately.

Week 3: Building a Garden

This week we'll build a raised garden bed for your garden. There are many benefits to a raised bed garden: weeds and animals are kept away from your garden, fewer nutrients are leached away from your soil, the soil itself doesn't get compacted over time, and provide better drainage than your garden may otherwise have. If your garden is sloped, this can also help level the area with minimal effort.

Plan the location of your garden bed. It should be about three by six feet in area, and the planter itself should be one to two feet high.

Remove all weeds and grass from the area, revealing only dirt. If your area is prone to becoming water logged, you will want to dig down six to twelve inches and replace the soil with pea gravel to prevent your plant filling with water. Level the area with the surrounding ground.

When constructing the planter, we recommend cedar thanks to its natural protection from insects. Hammer four square posts into each corner of the garden bed to match the expected height of the garden bed wall. Then dig around the perimeter of your garden—half of the first pieces of lumber must be buried underground for rigidity. In our example, we used boards eight inches wide, buried halfway into the ground and attached to the square posts at either end. Then lay another board above that and screw it to the posts as well. The result was a wall one foot high—the top board being eight inches wide and the bottom board showing only four inches above the surface.

Beautify the garden bed by laying four-inch planks along the edge, mitering the corners. This creates a nice 'ledge' and a more pleasing look.

Simply fill the garden bed with a mix of soil and compost and grow any vegetables you like.

Week 4: Self-Irrigation



Once again ending the month with an easier project, this week will focus on only one thing: irrigating your garden. We're going to use a self-irrigating technique called *drip irrigation*. It requires no effort on your part and will keep your plants watered and healthy while avoiding chances of over-watering and soil erosion. Most drip irrigation systems are expensive, but ours will be made for less than \$50.

A drip irrigation system is essentially a series of piping with emitters embedded. Water pressure forces water out of these emitters slowly so that each drip line 'weeps' water.

Dig four-inch trenches one foot apart within last week's garden bed. Trenches can be horizontal or vertical. Then, run hosing from your rainwater storage tank to your garden bed—hopefully, your garden bed is lower than the tank; else you'll need a pump. Then, find a PVC adapter for the hose—we recommend 1" PVC slip adapter.

Cut a one-inch hole in the side of your garden bed and insert a short length of 1" PVC pipe. The slip adapter should be cemented onto this pipe on the

outside of the bed. Then, simply cement in place one PVC 90 degree elbow joint. Next, you need to fabricate a length of 1" PVC pipe that travels the length of your garden bed with a manifold (or three way adapter) at the start of each four inch trench you previously dug.

These three-way adapters much are one inch on each side, with the middle female adapter matching the size of drip line you choose. Attach this drip line for a snug fitting, running it down the length of your trench. Test for leaks, then cover with soil to keep the garden bed constantly watered.

(It should be mentioned that in some cases, relying on gravity for your water pressure may make it possible to simply use hoses with small holes—if your system doesn't have a lot of pressure, this can be an even cheaper solution).

Food Emergency Project 1: Extending and Using Shelf Life.

The previous weekly projects are optimal, when you are preparing for events that are months, if not years in the future. But what can one do in terms of surviving a short-term food emergency, or if the danger arrives with little or no advance warning?

This, of course, is possibly the most visible challenge of preparing for emergencies; we have all seen the motion pictures where this hero or that must make choices, must test dangers of foods that one discovers. Of course, being prepared means even more than simple self-sufficiency; one must survive the immediate dangers, must have food for the shorter-term, the ability to make the transition to organically grown and self-provided food sources.

While it is difficult to determine an absolute baseline for human survival, generally males require about 1800-2000 calories, while females require a bit less, around 1200-1600 per day. Knowing this minimum number only sets the lower limit for sustenance.

From that number, the preparation process can start immediately. Certain kinds of packaging can offer a long storage time, called a shelf life, for foods, while others lead to earlier decay. Cans and hermetically sealed plastic containers offer longer shelf life, for example, compared to paper or unsealed mesh.

Particularly useful, therefore, in preparing for the worst, are those foodstuffs that keep balanced nutrition in long-term packaging. Cans of vegetables in water, meats in light oil, and dried pasta in plastic bags are all great examples. By keeping such foodstuffs in a cool, dry, and insect-free environment will add significantly to your survivability. Using the nearly ubiquitous recyclable bags to store the material in carry-sized bundles means that even in a bug-out situation, you can transport such stored resources in a hurry.

In particular, the hardiness of canned goods is well documented, but care of the cans can be a factor, as any compromise can allow the growth of salmonella or other form of food poisoning. Track and rotate your

inventory, using the older foodstuffs before the expiration dates are exceeded.

Food Emergency Project 2: Menus and Portion Rationing

Beyond the actual collection and storage of foodstuff, being prepared has much to do with keeping control of a food budget requires a level of discipline that is critical to long-term survival. Remaining healthy enough to function, while keeping within the limits of a food budget is demanding, so this emergency project takes serious thought and planning.

Get educated on which foods provide what nutritious value. Build a menu for a one-day, one-week, and even a one-month duration, and be prepared to enact each as necessary.

The biggest challenge in creating such a menu list is more than just meeting nutritional minimums. Eating is more than a mechanical function; it is part of our reality, our daily operation. Building this menu is sort of like a financial budget; if it does not take into account natural tendencies and desires, it can become an onerous and undesirable chain, restricting and impeding success and survival.

Here are some tips on creating a fun and survivable menu, that you can not only survive on, but thrive on.

1. Include a little sweet, a little salty in each day. Perhaps a dry biscotti and coffee for breakfast, a rolled sausage and cheese twist for lunch, a soup for dinner one day, and a radically different combination the next. The cravings for one or the other can break a diet or a survival regimen as easily; remove the temptation to cheat, by building in acceptable indulgences.
2. Store foods in portions, to make use easier, and misuse more difficult. Leftovers should be processed into the mix at the end of each meal, meaning you should try to regulate overall caloric count, not necessarily individual nutrients. The human body expresses its needs effectively, if you pay attention to its signs. By keeping portions uniform, you meet its needs without breaking the regimen.
3. Take into consideration changes in the conditions that might change the input requirements. Physical activity and colder temperatures can

lead to higher caloric requirements, so provide alternatives and options in planning to support these changes.

4. Work to include as much natural foods as possible, even as you work toward autonomous operation. The less processing your foods have to go through, the healthier they are.

Chapter Three: Free Energy



In this chapter, you will learn:

- How to freely heat water
- Cooking using the power of the sun
- How to create a small and cheap heater
- Cooling your home for dollars a day

Energy without the Cost

If the power grid ever fails you, you don't want to be unprepared. It's good to have a generator on hand—just to have a guaranteed source of electricity capable of powering anything you might have. However, there are other ways to get energy—energy to heat your water or cook your food *without* electricity. It's also possible to generate electricity on your own using consumer solar panels or a homemade turbine for wind or water use.

Week 1: Heating Your Water



This is a very simple design for heating water in your home and can be completed in only a few days. Anyone who has spent time working on a roof will know: house roofs are *hot*. This can be used to your advantage.

For a readily available supply of hot water, use lengths of black hose pipe. Run the hose across either (or both) sides of your roof, covering the largest surface area possible. You will want to run the hose in a serpentine pattern (horizontally or vertically). If your source of water is placed on your rooftop, you needn't worry about pumping water—simply let gravity pull the water through the system. The hose can go up and down in any way necessary so long as no section of pipe is higher than the water reservoir outlet. Otherwise, a pump will be needed.

When attaching the hose to your roof, ensure nails are covered by your shingles, otherwise they will rust over time and water will be able to freely travel down the length of the nail and into your attic.

Week 2: Cooking with the Sun



A solar cooker is often considered to be a science fair project for children. The efficiency of a solar cooker is often understated for this very fact. This solar cooker isn't simply a shoe box lined with aluminum foil—this cooker will be capable of reaching over 250F. Although not amazing compared to gas stoves, it will enable cooking without any consumption of fuel at all. Talk about resource management!

The Oven

In order to contain the temperature of the oven, you need to enclose the food in question with a material which allows thermal radiation to penetrate but will hold in the heated air. The best solution is a box relatively air-tight and made with glass.

Glass can be bought and cut to size from most hardware stores, or glass boxes can be purchased pre-built. If building it yourself, the process is similar to building your own aquarium tank from glass: seal edges using silicone. We recommend a simple wooden or concrete base. The wood is easier to work with, but will need to be treated to increase longevity. In

either case, cut a groove in the top of the base for the glass walls to rest into and seal it with silicone.

Create a lid for the oven using another pane of glass with rubber around the edges to make a tighter seal. A thermometer can be attached to the inside to show oven temperature.

(An alternative method: Purchase a *glass* aquarium from a pet store to cut down on labor).

Place the glass case in an open area on a pedestal made from a material of your choosing. Cinderblocks are cheap and effective for this.

Lastly, in order to reflect light into the oven, you will need to attach hinged wooden panels to each side of the oven base. These hinges should allow the panels to fold upward and direct the sun into the glass case. Attach aluminum sheet metal to each wooden panel and polish. Mirrors can also be used for greater efficiency.

In order to keep your oven protected and outer surfaces clean, you can fold the mirrors upward into a box that surrounds the glass case, keeping the mirrors inside protected from the elements as well. A lid should be fashioned for this, and some locking mechanism to keep the walls together and upright.

Week 3: Building a Simple Ceramic Heater

Building a simple, ceramic heater can help keep you warm in the winter. This heater is very easy to make, very safe, and will keep a small room warm enough to survive even the coldest of winters—and it only uses a few basic parts.

This project will require:

- A six-inch ceramic plant pot with matching ceramic water tray
- A five-inch ceramic plant pot
- Threaded steel rod (1/2" in diameter and 11" in length)
- Fourteen 1/2" nuts
- Eleven 1/2" washers
- A length of chain with links at least 1/2" wide and about six inches in length (ensure it has an odd number of links)

If you're unable to find the threaded steel rod in 11" lengths, you can use a hacksaw to cut a longer length to size, or use slightly longer 12" lengths.

Screw two nuts onto the rod about an inch from the end. Slide both ends of the chain onto the end of the rod, then twist one last nut to secure the loop made by the chain. The heater will hang on this rod.

Slide a washer onto the long end of the rod and slide it up to meet the two nuts previously screwed on. Then, slide the big ceramic pot onto the rod, bottom first. Slide on another washer, then another nut to secure the plant pot in place.

Slide another washer onto the end, followed by the smaller plant pot. As expected, slide on one more washer and two more nuts to keep the ceramic pots sandwiched tightly together.

Now, screw on a single washer and *six more nuts and washers*. End with a nut. These nuts and washers act as a heat sink, which will then radiate heat outward to the plant pots.

Lastly, add the ceramic base. Drill a half-inch hole into the ceramic water tray and slide it onto the steel rod. Then, add a washer and a nut. The height of this tray can be changed by twisting the bottom nut. The heat is supplied by four tea lights. Though small, they actually provide ample heat for an incredible four hours.

Repeat this as needed—we recommend creating two such heaters and hanging them anywhere in your room.

Week 4: Cheap and Efficient Air Conditioning

This week's project helps raise your standard of living by using an efficient air conditioner for small spaces. It's also a very simple project you can finish within a weekend.

For this project you will need a cooler, a fan (eight inches or larger, but no bigger than the cooler is wide), a PVC long turn elbow joint (2" to 4" less than your fan in diameter), and optionally, a solar panel for running the fan.

Ensure your cooler is made of durable plastic. Cut a hole in the lid to match the size of your fan—the fan should slide easily into the hole so that, when running, air is blown directly into the cooler. Likewise, cut a hole in the PVC elbow joint through the lid. Cement the PVC joint and the outer fan guard in place using PVC cement.

Fill the cooler with water, ice, and salt, then stir. If you wish, connect a solar panel and battery kit to run the fan.

This air conditioner is more than adequate for keeping cool in the summer without using expensive and resource wasting air conditioning units.

Energy Emergency Project 1: The Power of Propane.

One of the more efficient means of storing energy for heating, food preparation, and other purposes is liquid propane. While individual containers may last for a very long time, the challenge of utility and safety sometimes come into opposition, as what is healthy may not be as useful, and vice versa.

For cooking purposes, a well-maintained barbecue with good ventilation and safe operation can prepare meals at a reasonably low cost. While the need for renewable resources in the long-term are very important, the short-term need to survive is as critical.

Such gas is economic, if the use is controlled and prudent. Use flame setting as low as possible, and keep the grill and surfaces as free of grease and other flammable material as possible. Cook foods to the appropriate temperatures to keep them free from biological toxins, and to kill bacteria that can be poisonous.

Heating with propane is a bit more problematic, as the byproducts of the open flames can be Carbon Monoxide or other noxious or even toxic chemicals. One way to take advantage of the heat without the dangers is to put ceramic blocks and even large rocks in the heating space of the cooking surface within the barbecue housing, and allow them to be heated by the very food preparation flames. Then, when they have achieved that higher temperature, remove them and place them within your dwelling, so their radiant heat can warm the area. In particular, placing blankets and sheets over these heat sources. For the most part, the propane heat will not get to the levels of heat that could damage or destroy the bedding, so for the most part, this should be adequate to make bedding more comfortable. For smaller spaces, and a quicker temperature conversion, pour gravel into an old cook pan, and heat the gravel. Before retiring for the evening, and holding the pan with a protective heat pad, run the pan's bottom across the bottom of the bed, to pre-warm the area where your feet will be shortly, to make it more comfortable and toasty. Survival doesn't have to be torturous, and may in many ways be more enjoyable than simply surviving.

The advantages for safe use of propane, too, is that the size of the tank can be as economic or as long-duration as you desire, because the technology

has been used for decades, and the losses over time are virtually negligible. Further, the canisters are hardy, and unless subjected to extremely high temperatures can be stored nearly indefinitely.

Energy Emergency Project 2: Stockpiling Batteries

Those who prepare for the end should also recall the difference between kinetic and potential energy. The active energy, kinetic, is usually the expression of potential energy, using that energy to do work. Potential energy, on the other hand, is energy stored for later use. It may seem counterintuitive to focus on the energy not yet being used, but having a broad array of storage options for this energy can provide long-term improvements in survivability.

From large auto-like batteries to power water pumps and vehicles, to AAA batteries to keep your flashlights or radios in good working order, clean, dry, and safe storage of batteries can be essential to the preparation to survive whatever the world may throw your way.

The practical storage life for batteries is only about a year or so, with the rechargables lasting longer if used and recharged over time. Some of the newer Lithium style are more hardy, so read the owner's manual for the best performance. Keeping the batteries in good shape will at least give you a heads up when everything else goes down.

A great way to organize and store batteries is to dedicate a fishing-tackle box to the purpose. The sections tend to afford a few varieties for the different sizes, and the enclosed nature protects the batteries from moisture or unintentional discharge. Safety tip? Use an aluminum or plastic option, to avoid contact with the sides from allowing unintentional electrical losses. Larger units can be stored in dark cabinets, and it is recommended they be insulated by placing on wood or other non-conductive surfaces.

Chapter Four: Wilderness Survival



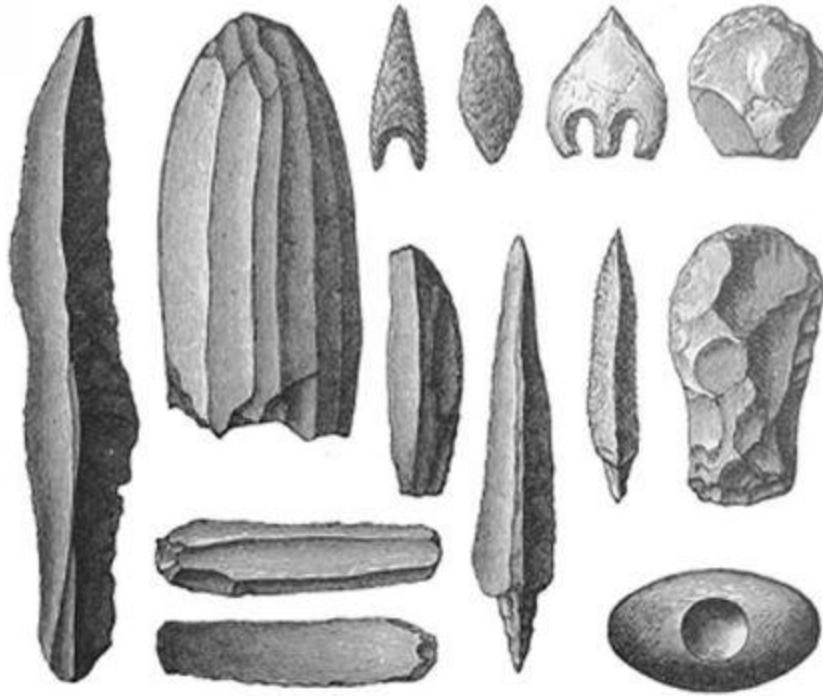
In this chapter, you will learn:

- Creating stone tools by hand
- Simple trap construction for hunting
- Techniques for starting fire by hand
- Building an efficient woodstove

When the Worst Happens

If the worst were to happen, you might find yourself completely off the grid. You may even be without tools necessary for survival—axes and knives, for instance, will go a long way in helping you to survive, and knowing how to start a fire will also help.

Week 1: Stone Tool Creation



Creating stone tools is easy but time consuming. Stone tools are also more efficient than you might think. Used by people all over the world for centuries, stone tools allowed civilizations to flourish in a time before metallurgy existed. The entire Mayan and Aztec civilizations were built on stone tools—their efficacy shouldn't be underestimated.

A Stone Axe

Creating a stone axe is fairly straight forward. First, select a river rock that has been worn smooth. It should be the general size of your intended axe head with a gradual curve on one end. Flint can create much sharper axe heads, but the process of chipping away the edges—knapping—to create a sharper edge takes practice. If you wish to use flint, try striking your intended axe head with another rock at a steep angle. Flint will 'flake' away creating patterns like chipped glass.

Next, find a rough boulder near water. The boulder should have a relatively flat surface which will be used to grind your stone. Add a little water to the surface and wet your axe headstone. Then proceed to rub your axe head back and forth, grinding it to shape. Keep the stone wet to help grind smoothly. Flatten one long side at the top of your axe. Then, grind your stone so that the sides are slightly angled. Last, ensure the curve of your axe blade is gradually curved.

Next, grind a bevel into the blade using the same process above. If your stone is flint, you can use a knapping technique to create a sharper edge. Grinding the bevel will take time, but the goal isn't to make it as sharp as steel—even a relatively dull axe will be of benefit in the wild.

Lastly, find a rock you can easily hold. Ensure it comes to a relative point. Use this rock to chip away an indentation on the top of your axe head. This will allow the rope to settle into it when you tie it to a handle.

This axe can be used as is (a hand axe), or attached to a handle. Simply choose a branch of decent thickness and straightness, and then split the top. Insert the axe with the flattened head with the indentation at the top. Your axe head should have a slight taper to fit snugly into the branch. Then simply tie it in place using an X-pattern. Reinforce the split of the handle by tying cord tightly below and above your axe head.

Week 2: Traps



This week, practice building traps from scratch to trap animals in the wilderness.

The simplest, almost cartoonish, trap used a box held up by a stick with bait inside. When an animal goes to eat the bait, a string attached to the stick is pulled, and the box falls on the animal. That is not our trap.

The Deadfall Trap

These are commonly used by hunters and survivalists. They're easy to trigger and fairly effective when used *en masse*. That's one important note for trapping: a survivalist can't rely on one single trap to catch food. He must prepare as many as ten and hope for the best. Check your traps every day or scavengers will steal your meal.

This deadfall is called the *figure-four deadfall* because its shape resembles the number 4. It relies on an animal touching the horizontal bar and

triggering a suspended load (a large piece of bark or log with a rock lashed to it) to fall and kill it. The weight of the load should outweigh intended prey by at least three times.

Use three straight sticks that are roughly two feet in length each. Cut a standard notch into the middle of two sticks so they interlock into a + shape—the notches fit together similar to Lincoln logs. At the end of the horizontal stick, carve a seven shaped notch (one end of the notch is flat and the other slopes away smoothly). Cut a similar notch at the end of your third stick.

Finally, carve the top end of the horizontal stick and the unnotched third stick into a wedge shape. Each wedge should nestle into the 7-shaped notches you carved. Your load will push down on the trap, keeping it locked together. However, with bait added to the unnotched end of the horizontal stick, any animal that disturbs the structure will quickly be flattened.

Week 3: Fire Starting



Starting a fire by hand is always a difficult task and might take weeks to master—though we hope it only takes you one. We'll use the Bow-and-Drill method as it's the easiest to master.

Use a piece of supple wood with your bow and notch the ends. Connect a string to either end so it's pulled into a bow shape.

You'll also need a spindle made of hardwood—straight with one flat end. The other end should be carefully rounded. This is your spindle. You'll also need a rock with a concave section in which the rounded end of the spindle rests. You apply pressure downwards on the spindle using the rock, allowing it to spin freely.

Use a piece of softer wood, flat wood and cut a notch into an edge. Then carve a dimple at the end of the notch for your drill to rest into.

Wrap the bow string around your spindle once, placing the rounded end of the spindle in your rock and the flattened end into the dimple. Apply

downward force with the rock while sawing the bow back and forth, causing the drill to spin. As embers build up, the heat will grow. Try to angle the wood so that the embers fall into some tinder—once it starts smoking, blow into the tinder until it catches flame.

Week 4: DIY Wood Stove



A less primitive project for this week, creating a portable wood stove is easy and very convenient to use. The main advantage of using a wood stove rather than an open fire is that your wood is burned more thoroughly—which equates to the better use of resources and less work on your part. You'll need a 4" soup can, a 3" soup can, 1/8" and 3/8" drill bits, tin snips, a file, and a hole punch.

Open each can and place the smaller can atop the removed lid of the large can. Trace around the edge and cut out the center of the lid to create a collar for the smaller can. (Use your hole punch or a hammer and nail to create

holes around the traced edge, and then use tin snips to cut it out). It's better to cut just inside the traced line, so it makes a tight fit.

Punch eight equally spaced holes in the wall of the larger can, about a half inch from the bottom. Punch another eight holes offset from the first and about an inch above them. Repeat these steps for the smaller can, punching eight holes for the lowest row and only four for the row above that.

For the smaller can only, punch sixteen evenly spaced holes about $\frac{3}{4}$ " below the rim on the open end. Then punch concentric holes in the bottom of the smaller can—fill it with as many holes as possible.

Place the collar on the 3" can, keeping it in place halfway between the ring of sixteen holes and the rim. (This can be accomplished by inserting nails to hold the can above the collar.). Suspend the smaller can inside, the larger using the collar. Now, simply fill the smaller can with wood and light it.

This design allows air to flow through the can as necessary to keep the wood burning hot. Suspend a pot above the flame using a stand and your wood will burn thoroughly and efficiently for cooking.

Wilderness Emergency Project 1: Survival by Minimalism

The projects in this section address what one does if in the wilderness for an extended period, but what if one finds the situation more immediate? Imagine being enroute across a wilderness, and suddenly being a survivor in a wilderness, unable to access all the preparations you have put together. What must one have in their possession, at virtually any given moment, to be able to make your way to your prepared home environment?

In any environment on the planet, there are still specific items that are absolutely essential to have at your fingertips. While some are arguably excluded from some situations, the short list of essentials are, in this case, the very basis of survival itself, they are so essential. Let's itemize that core survival kit, shall we?

The core of survival, for any environment, consists of shelter, food, and water. While the variety of these three are dependent on climate, location and season, these three must be achieved. So, what items are essential to attain these three? For starters, one would want tools, the basic means by which people have carved their existence into every corner of the world. In the case of survival, however, the limits for this exercise is that the whole of the kit must be something you can carry on your person.

Cutting Instrument: whether improvised or professionally manufactured, some means to cut things is critical to survival. For most purposes, a penknife or small folding lock-blade is a respectable representation of this necessity. Granted, flight on an aircraft these days will not permit such a device, but even an ink pen or pencil can be sharp enough to pierce, and with creativity, any object of the right consistency can be sharpened and edged for such a purpose. So whether you begin with such an item, or create one from your surroundings quickly, some form of tool that can be made to make incisions or to cut cloth or other materials is essential to wilderness survival.

Fire or Ignition Source: Perhaps the most visible of resources associated with survival in the wilderness is the capacity to build a fire. Safety matches, lighters, or even electric sparks can act as such a resource. Again, aviation safety precautions aside, carrying a small butane lighter is an obvious choice for the second piece of your wilderness survival kit.

Environmental Protection: Depending on where in the world one is traveling, the conditions of the wilderness you may be in can vary considerably. If one heads into Arctic climes, one does not only wear a tank top, after all. Sensibility should win over style, and as in every other case, layering is critically important. Water-resistant clothing is an absolute necessity for damp environments, as are ample covering for areas of brilliant sunlight. Proper and adequate attire means the difference between life and death.

Shelter resources: While it may not seem practical, some material of sufficient size to afford some shelter from the elements is highly recommended when traveling through wilderness areas. A heavy canvas tarp, optimal in earlier times, simply is untenable today. Instead, consider a parachute-type rip-stop cloth of at least six feet square, or even a cotton or blended microfiber blanket is a good alternative.

Water Supply: While it is not always optimal to have an extreme amount of the basics, it is at least a major suggestion that you carry a water bottle, usually 20 ounces to a quart, at all times. Even in civilized environs, an emergency could prevent you from finding other sources, so having even a small amount at the ready will mean a better chance of survival.

Food alternatives: Again, it is not prudent to carry an excess of it, but having at your disposal some form of food, whether a granola or other nutrition bar, or a bag of nuts and dried fruit will certainly give you a leg up in surviving this wilderness emergency. A little can go a long way, if it must.

The point here is preparation for the worst case scenario. With nothing but this wilderness-survival kit, you can at the very least make an effort to be a survivor, not a victim of the circumstance.

Wilderness Emergency Project 2: Making Your Mark

Recovering from being lost in a wilderness is perhaps as important as surviving itself. Anyone lost in the wilderness for an extended period of time, particularly if completely unprepared, has a diminishing chance of survival. So having the means to be discovered and recovered is paramount.

The most likely means of discovery in just about any environment is to be sighted by aircraft. This is primarily because the craft tend to be able to cover wider search areas than individuals on the ground, and can cover those distances at higher speed. Minutes and hours can mean all the difference in the world.

Depending on the type of terrain and climate you find yourself in will determine which type of action you will want to take to improve your chances of being found. Some conditions are easier to deal with than others, and the basics are often very similar.

Of first note is that size makes a major difference. A dull but distinguishable symbol that is a half mile wide is easier to spot than a brilliant and obvious symbol that is only a few feet across. So the economy of scale can play a big part of your discovery.

An X, or a cross of considerable size is relatively easy to recognized from above. The method and means of making such a symbol will depend on the conditions: in heavy brush or ground cover, the best may be clear-cutting and removing of foliage, while in a dry environment a pattern of rocks laid out, or a groove cut in the earth itself might serve better.

For any given emblem, its visibility is based on the capacity for the mind to discern its detail. That means a large X on the ground may not even seem like a symbol if it is too large, or not even seen if too small. A basic rule of thumb should be that the X should be ten feet tall for every 1000 feet of elevation. That means, on a mountainside where a helicopter might be flying at 500 feet elevation, the x could be as small as 5 feet, but if it is an aircraft at 5,000 feet, the x should be 100 feet or more in length to be visible from the air.

While in all these endeavors an entrenching tool or shovel might be optimal, even digging and marking with bare hands is more advisable than

just hoping and waving.

In certain circumstances, a large fire with a lot of smoke might actually serve the dual purpose of providing visibility by night and day; the light of the fire by night, the pillar of smoke by day. If possible, build the fire at the crux of your symbol, to ensure they realize the fire is intentional, and that you are there to be rescued.

Chapter Five: Home Construction



In this chapter, you will learn:

- Structural hardening of your home
- Storing food for the long term
- Hidden compartment construction
- Water hand pumps for household use

Leveling Up Your Home

This month is all about home improvement—creating a better, more secure home that’s considerably more self-reliant.

Week 1: Structural Hardening



The theme for this week is safety. Structural hardening of your home is important to maintain security during hard times, especially if prior preparation has made your home into a target.

The points of entry in your home are the weakest areas and usually the target of criminals. Modern security is woefully inadequate with windows and doors made to be mass produced, not necessarily safe. There are a few things you can do to improve home security this week.

First, reinforce the frames of all doors leading to the outside. To do this, open each door—typical door ‘security’ consists solely of the strike plate. Shallow screws and a small surface area mean doors can easily be kicked down. Instead, replace the strike plate with a stripe of metal that covers the entire side of the door. Security plates of this size can be purchased or machined by hand. Secure them to the frame with deep screws.

If able, replace wooden doors with metal ones. Otherwise, add metal guards around the handles of each door for reinforcement. Lastly, replace the standard two or three hinge system with a single hinge the length of the door. Attach these with deep screws, too.

Lastly, purchase steel brackets and attach them with six-inch screws on either side of your door, sinking them into the studs of your wall. Use these

brackets to slide a wooden or steel bar across the door so it can't be kicked inward.

When reinforcing windows, the simplest solution is to add bars to the inside of your home. Then can be set into wooden frames so long as you properly attach the frames to the studs of your walls and not simply the window frame.

Week 2: Long Term Food Storage



Storing food for the long term is essential for any prepper. Some examples of food that last when stored correctly are honey, sugar, and salt (indefinitely); white rice, oats, dried corn, and powdered milk (ten years or more); and dry beans, pasta, flour, and bouillon (one to two years).

All food being stored should be kept in airtight, resealable containers. To protect against faulty seals, food should have at least two layers of protection. Keep them in a cool, dark, and dry place for best protection. Many people use basements or storm cellars.

If you're storing food you often use but has a short shelf life, simply buy two when shopping. Keep it in rotation—when you've finished the food from your pantry, grab the one in long-term storage and buy a new bottle to replace it.

For this week, find a place to store food for long term storage. Erect shelves and collect airtight bins to keep food safe and fresh.

Week 3: Water Check Valves

This is an easy and fun project for creating a hand pump that has been divided into two parts: the valve and the piston. Hand pumps are often mysterious, but they're quite easy to make. From the first few chapters, you've probably already got rainwater storage and drinking water storage, and you may be using water for a hydroponic garden or regular irrigation. We've also worked on a passive solar water heater—pumping hot water throughout your house will be easy. Without electricity, you'll have to rely on a hand pump (or gravity) to move your water around.

Our check valves will be made primarily from PVC piping. We'll use a standard size, but feel free to upscale or downscale the valves—they're quite easy to make, and it's a good idea to make several at once.

You'll need: *Two ¾" Male PVC Slip Adapters, ¾" PVC tubing, ¾" marble or plastic ball, a ¾" rubber O-ring, and a thin nail.*

Place the rubber O-ring inside the slip adapter so that it rests on the inside ledge. Put the marble inside and test to make sure it rests comfortably in the O-ring without slipping through. Then insert the PVC pipe into the adapter's female side.

Drill a hole in the PVC one inch from the rubber O-ring. Insert your thin nail or strip of metal—this is the guard to stop the ball from rolling away down the pipe. Clip the ends of the nail to leave it flush on both sides.

Remove the pipe, add cement (ensuring it also covers the point of entry for the nail), and then push the adapter back on to the pipe, allowing it to set. Cut the PVC pipe to length and then cement the second Male Slip Adapter onto the end. This check valve can now be inserted anywhere into a PVC system. Mark the direction of flow for future use.

Week 4: Creating a Hand Pump Piston

In order to utilize the check flows creating in last week's project, we must now make a hand piston to pump up and down. This project will make a valve similar to those used in bike pumps, but you can easily work it into any type of level for greater mechanical advantage.

The parts list for this project is fairly extensive but cheap to buy:

- 1-1/4" Slip Cap
- 1-1/4" PVC Pipe (24" length)
- 1-1/4" Slip Coupling
- 1-1/4" by 3/4" PVC Bushing
- 3/4" PVC Close Riser
- 3/4" PVC FITP 3-way Adapter
- 1" PVC Pipe (26" length)
- #320 O-Ring
- #219 O-Ring (x2)

For the handle assembly, you'll need a 1" PVC slip T, two 1" slip caps, and scrap PVC cut from the 1" PVC pipe above.

Assembling the Piston

Sand the 1" pipe smooth, then cut two grooves into the 1" PVC pipe at a distance of 1" and 2" from the end. The grooves shouldn't penetrate the pipe. The two #219 O-rings will rest in these grooves.

Assembling the Pump Casing

Cement the 1-1/4" slip coupling to the PVC bushing. Then cement the 1-1/4" PVC tubing into the bushing to form the outside of the pump. Lubricate the piston, and then insert it into the casing. It should slide in easily with a slight twist.

In order to seal the pump, drill a 1-3/8" hole in the center of the 1-1/4" slip cap and place the #320 rubber O-ring on the underside. Twist the slip cap

onto the 1-1/4" PVC piping (the pump outer casing) with the piston sticking out from the center.

Assembling the Handle

Finally, assemble the handle from the spare 1" PVC pipe, the 1" slip tee adapter, and the 1" PVC caps. Fit onto the end of the piston.

Check Valves

You'll need to add two check valves made in the previous week. The bottom of this pump ends in a 3/4" bushing adapter—screw in the close riser and attach this to the FITP 3-way adapter, using plumber's tape for a tight fit.

Connect one check valve to each end of the 3-way adapter. If you used a size other than 3/4" for your check valves, you might need to modify this bottom assembly. Make sure when adding the check valves, they are attached in the same direction (with the O-ring for both valves on either the left or right side).

Using Your Pump

And that's it! Your pump is ready to use.

Home Emergency Project 1: Improvising a Safe Room

We've all feared it – the incredibly rare home invasion robbery. The news is sure to report on such, and though as a type of crime it is rather rare, nonetheless it is one of the most frightening. As you read this, think about your own home. If you were to hear someone breaking in, where would you go? What would you do? Even if the very act of the break-in sets off a home alarm, or someone calls the police, how long would you have to stay safe before those authorities arrived? Five minutes? A day?

To set up a location that is secure within your home is not particularly difficult. The first is to find an internal closet or space with a standard-sized doorway, not a pocket door or sliding closet-style entry. Local hardware stores do have security doors, usually metal panels with insulation between the layers. Granted, such are not secured against bullets, but at least they will resist outright physical destruction by punches or kicks. By replacing that interior door with a security door, you improve your survivability considerably.

In this space, mount metal plates akin to the stainless steel wall boards used in kitchens as splash guards. Again, they do not prevent damage from firearms, but will at least discourage someone attempting to gain entry by knocking holes in the drywall. This metal box will then be your safe room, so stock it with a few of the essentials of survival – a few bottles of water, a few granola bars, that kind of thing.

Generally such panic rooms are useful only in extreme cases, and ultimately, if security fails at this level, any assistance, any options you can take advantage of greatly increase your survival rate.

Home Emergency Project 2 Getting the Right Attention

If a situation arises like this, and you have intruders enter your property, you want and need to get the attention of anyone and everyone you can, to keep you safe.

One emergency strategy that is often overlooked, but is highly effective in achieving this attention, is to make your home as annoying as possible, so that the authorities get called. Even if the attention paid to your dwelling is adversely targeted, you still succeed in drawing to yourself and your home the attention you need to prevent further damage or injury.

It is highly popular in the movies, but it also is successful in implementation, to turn on and blast your stereo and sound system to unreasonable levels. Neighbors will call the police to the disturbance. Perhaps the very attention will allow those around to see the intruders making entry. If the controls to your sound system happened to be in that “safe room”, so much the better.

At night, particular, lights can be as effective in getting attention, particularly if they flash on and off, or put out a Morse code message. The reason you want the attention, is so the authorities show up and take care of the intruders.

Chapter Six: Miscellaneous Projects



For the final month, let's have a little fun by working on some projects to round out your home.

Week 1: Let There Be Light Part I

If you find yourself without electricity, you may want to prepare your home by having an adequate source of renewable lighting. Although many people stock candles, there's a much easier way to get light—oil lanterns.

Oil lanterns can burn almost any liquid fuel. Olive oil is a great fuel if you have it handy in your kitchen, but you can also use high proof alcohol, gasoline, rubbing alcohol—you get the idea.

First, find a wick made of natural fiber such as cotton. Larger diameter wicks create larger flames. Also find a metal box or container that also has a metal lid. Certain metal cases containing curiously strong mints are a great example. However, smaller cases should have smaller wicks. Another option is glass jars with metal lids.

Cut a hole in the metal lid slightly smaller than your wick and thread it through. Leave only a quarter to half an inch poking out, leaving the rest coiled inside. Fill the case with your flammable liquid of choice and wait for it to be absorbed by the wick. Then simply light the wick and enjoy.

Week 2: Let There Be Light Part II

The other option for creating light in your home are candles. However, anyone who has bought candles in bulk knows they can be oddly expensive for what you get. This can be rectified.

Candle wax can be sold, alone, in packages of ten pounds or more for cheap—about one dollar per pound in some markets. Although making candles using molds is a possibility, a much simpler solution is to use jars or glasses to hold the wax.

Melt the wax in a double boiler under low heat. While it's melting, suspend your natural fiber wicks within the jars or glasses by taping the ends to sticks or skewers laid across the tops. The bottom of the wick should just touch the bottom.

Once the wax is melted, pour it into each jar and allow to solidify for 24 hours.

Week 3: Cooling Pots

It's possible to keep food cool even in the heat using a technique called evaporative cooling. This is a great way to store perishables without a fridge or ice and uses no energy at all—though don't expect the same longevity as a fridge affords!

Use two unglazed ceramic plant pots—one larger one, and another smaller one to fit inside. Tape the bottom holes closed in each pot. Then, fill the large pot with enough sand so that the smaller pot can sit inside with its top level with the lid of the larger pot.

Fill in the open space around the small pot with more sand. Keep the pot suspended and not directly on the ground—it's possible, also, to place the pot on a wire frame. Then slowly add water to the sand until it's thoroughly damp. Last, use a damp rag to cover the two pots. Over time, water will leave out into the outer clay pot.

Keep the pots in a shaded area with good air flow—it relies on evaporation, so a breeze is necessary to keep the inside contents cool. Typically, you'll see a temperature difference of 5 to 10 degrees so long as there are low humidity and a good breeze.

Finally, larger pots can stay cooler for much longer thanks to a greater thermal mass.

Week 4: Harnessing the Sun

This last project revisits solar energy with one important distinction: the *Fresnel lens*. Most solar projects use mirrors to reflect light, but the most efficient way to harness solar energy directly is using a Fresnel lens. These lenses work by focusing *all* the light striking its surface into a single point. And, unlike regular focusing lenses which must be made of glass, Fresnel lenses can be made of plastic—as a result, they’re cheap and light weight.

For this last week, consider buying a Fresnel lens for their sheer utility. A good use is to concentrate light with the Fresnel lens onto a water distiller—no gas or wood is required to boil your water. A suitably large Fresnel lens will bring a smaller distiller to a boil quickly. Fresnel lenses can also be used to boil water for drinking and disinfection.

They’re a truly remarkable invention. Just be careful—never stand in front of one!

General Emergency Project 1: Counter-Kidnap Tactics

It is one of the greatest fears of having a family: someone takes your wife or child prisoner. Slightly less of a fear is our own apprehension, but these tactics should be taught to every person in your family, to make such far less likely an occurrence.

STAY WITH THE CROWD. Those who would grab victims in the clear much prefer targets that are isolated from larger populations. When possible, park at least in sight of other vehicles, remain in the visual line of security cameras, and avoid dark spot or blinds, those places where action and occur without observation. Time your movements to blend in with others, to ensure you are not singled out.

CARRY A WHISTLE. Not a little one, but a powerful, shrill metallic one. It is difficult for people to ignore the shrillness, and may draw life-saving attention to your plight. Keep it on a short cord around your neck, to make it easy to access. Once you start blowing it, don't stop until the attack ends, or the authorities show up, so that its efficacy is maintained. It can be even effective as a sound attack, if you blow it loudly and directly at the assailant. Very few can endure that sound for long.

GET HEAVIER. When you are grabbed, will yourself to be as heavy and unresponsive as possible. That may sound odd, but it is well-established that someone who does not want to be moved can increase their downward force, fundamentally becoming even heavier, less manageable. By doing so, you give them more of a burden than they expected, and can discourage them from continuing the attempt.

FIGHT. While it might seem counterintuitive, it is again a fact that a victim who moves from a primary crime scene to a second one suffers an incrementally higher risk of bodily harm and death. So make all actions you can to prevent the act of kidnapping itself. From actually wrestling with the attacker, to grabbing and holding onto furnishings and such to preclude being dragged away, cause them to pay dearly for the attempt. By making a physical altercation, not only wears down your attacker, it means you and they are leaving physical evidence of your fighting, and that can lead to the authorities being able to identify your assailants.

In all of these actions, the purpose again is visibility. Draw as much attention to the situation as possible. Make all the noise you want; the real point is you want to make it as uncomfortable for the assailants as possible, to keep them from dragging you away without anyone being aware.

General Emergency Project 2: Communicating Under Fire

It may seem odd, but it is important that we maintain communications with the outside world, even on the brink of collapse. We often are very connected with the rest of the world, though we may not think of it in those terms. If we are a part of what Social Media, we are linked. Our internet connection offers us the opportunity to upload and protect our electronic information, but we fear hackers and even worry our cell phone signals might be intercepted.

But the truth is, we do need to remain accessible to our world. Here are some recommendations on how to keep yourself in the loop but not hanging out to dry.

GO WITH A LAND LINE: Cellular phones have many advantages, but one of their greatest dangers is their vulnerabilities. If the power is knocked out, it may be difficult to keep the phone charged, and the cellular towers that make the signals stable will also be down. Choosing to ensure you have a dedicated land line into your property is a great way to remain connected, as the power requirements for the phone is carried through the phone lines, and is not dependent on the house electric to remain connected and active. Further, a land line is considerably more secure from interception. Further, the creation of a safe room in your house, and installing a dedicated line to a phone there is a perfect way to stay connected, even if your home falls to an invasion burglary.

KEEP UP WITH THE WORLD AROUND YOU: With a short-band radio and police scanner, you set yourself up to be informed and aware, should anything sketchy occur in your area. Getting a short wave or CB radio with a microphone gives you transmit capabilities, while even just a receiver can offer unidirectional information to be received. The police channels do have some encryption, so may not be as useful as in the past, but general information and safety concerns can certainly be picked up among the other traffic.

LIGHTS AND CODES: It may feel dated, but becoming familiar with morse code, and keeping a powerful flashlight about can be a life saver, particularly if your property is under assault. By knowing the basics of light communication, you can silently transmit information to the authorities that

may help you survive. Being able to read incoming messages, too, can let you get into a safe location, and ensure your family can live through the danger.

Conclusion



Six months—it's a long time. We're going to assume you read this book cover to cover first before embarking on your journey (or maybe you haven't!)

But being a prepper means being prepared. The DIY projects included in this guide are designed to prepare you for disasters, increase self-sufficiency, and reduce the resources you consume.

From energy to food, defense and wilderness survival, there's a lot to learn and a lot to practice in this book. Simply building these projects is fun in and of itself—but knowing that they can not only help prepare you for an emergency, but also improve the world *right now* is amazing.

If you're trying to save costs or you find yourself without power for an extended period of time, you'll be able to store fresh food longer and cook food. Disconnect from the grid and you'll be able to enjoy creature comforts like fresh water and heating and cooling for your home. You'll have a way to collect rainwater and distribute it through your house, treating it for drinking and using it for irrigation. And, of course, you'll need to irrigate—now that you've got a beautiful garden fertilized for free

using recycled organic matter. During winter, you'll still be able to grow food using a simple hydroponic garden in a climate controlled room.

If civil unrest strikes, you'll also know you and your family will be safe in your room thanks to the structural hardening techniques used in Chapter 4, Week 1. And you'll be able to weather any storm or disaster with a supply of long-lasting, nutritious food. And, of course, you'll never be left in the dark again with your homemade candles and lanterns.

Following this six-month guide is guaranteed to keep you prepared for any natural disaster or emergency while also giving you hands-on experience in DIY construction. Feel free to research the uses for each project more thoroughly—it's better to know how to use what you have most effectively in order to cut down on resource consumption, after all.

We hope you've had, or will have, a wonderful time working on these DIY projects, and we wish you the best of luck. Stay safe—be prepared!

Bonus: Your FREE Gift



As a token of our appreciation, please take advantage of the **FREE Gift** - a lifetime **VIP Membership** at our book club.

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