

# **When There is No FEMA**

**Survival for Normal People in (Very) Abnormal Times**

by Richard B. Bryant

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*This book is dedicated to  
those with busy hands  
and watchful eyes  
who work diligently  
to protect the ones they love.*

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Richard B. Bryant  
Tampa, Florida

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# Author's Preface

**NOTE:** *If you are opening this book to deal with a major disaster that is already taking place (or which is imminent) then please begin immediately with chapter 14 on page 391 ('Forming a Disaster Community'), and bring that chapter to the immediate attention of influential members of your community. If you are not well-prepared, then the guidance provided in that chapter may make the difference between life and death for many people!*

In the presentations I have been privileged, over the years, to provide on the subject of disaster preparedness I have always started with an apology; an apology that I would also like to offer here to you. I would like to apologize that in the discipline of disaster preparedness I cannot point to a university sheepskin on the wall that conveys to me The System's 'seal of approval' indicating that I have formally achieved some well-recognized, standard milestone in the subject domain.

Certainly there are many classes that are taught on survival and disaster management, however by definition all classes that are part of "*The System*" inevitably assume that "*The System*" will always exist, and that "*The System*" is part of the solution rather than being part of the problem. Even military survival courses assume that the soldier-on-the-run is being backed up by a literal army.

These are **NOT** the types of disasters that I am anticipating as I write this book. This book anticipates disasters on the order of magnitude of *Hurricane Katrina* and *Superstorm Sandy* when "*The System*" broke down and the calvary did not come charging over the hill in time to save lives and property. In fact, **this book anticipates disasters that will make Hurricane Katrina and Superstorm Sandy look like a walk in the park.**

There are no diplomas given for preparing for the end of a system that produces diplomas. There are, however, endless nights of painstaking research spent chasing down elusive facts, distilling them, and framing the results of that effort into proper context. The ultimate result of those endless nights is the book you now hold in your hands. To understand some measure of the effort involved I would invite you to peruse the bibliography. I cannot point

to a sheepskin, however I can point to this work, which I humbly pray will provide its own testament.

My own interest in disaster preparedness started with the advent of the global financial crisis of 2007 (a crisis which continues to this day). Since that time financial disasters have erupted across the world, and nothing in the news has done anything to allay my concerns. The political situation in the US since that time has also deteriorated to the point that, at times, it seems our society is ready to come apart at the seams. With regard to politics, I did not get far into prepping before I dropped all concern with finger-pointing. If there is a finger to be pointed it ultimately must be pointed at a great many of us who have allowed our society to degenerate over several decades. To prepare for that which looms ahead very few of us have time or energy for finger-pointing (myself included!).

Over the years that followed I started a local prepper group that has met semi-regularly since. Through that diverse group I gained new insights and enlightenment, and my thought processes began to evolve significantly. While I started, as many preppers do, in contemplating a post-disaster world as what I like to refer to as an 'extended camping trip', I quickly came to realize that the reality facing us is not nearly so kind, and infinitely more dangerous. I came to understand the value of community, and the need to not just put back supplies, but to develop new skills for a very different future economy. I came to understand that the most important preparation is maximizing one's health **TODAY!** And, ultimately, I became aware of the critical importance of the spiritual side of prepping, and how it can enrich one's life in amazing ways.

As I continued to study the topic of preparedness I also became aware of other serious threats that I had never considered - threats which merit every bit as much concern as any economic disaster. As I read about the *Spanish Flu* outbreak of 1918 I realized how, in today's world of global travel and high population density, a recurrence would be profoundly devastating. I learned that the New Madrid fault in the southeastern US, which is overdue for a serious earthquake, could make the damage of Hurricane Katrina seem a child's temper tantrum. I learned how a very possible recurrence of the 1859 *Carrington Event* - which is entirely possible - could instantly plunge much of the world into total, decades-long chaos and anarchy. And since that time I've seen major disasters around the world only validate my concerns.

In addition to becoming aware of these other very real and serious threats I also came to believe that our society has evolved into a real 'house of cards'; that our systems are so inter-dependant that if one goes down for any significant time the other systems will follow. For example, if electricity becomes unavailable then fuel pumps stop working; if fuel pumps stop working then transportation systems stop; if transportation systems stop then the shelves of grocery stores quickly become empty; and if grocery shelves go empty it suddenly becomes too dangerous for anyone to venture forth to repair any of the aforementioned

critical systems. History (even modern history) is littered with the ruins of nations that descended from the lap of luxury into clusters of vacant buildings pock-marked with holes left by bullets and artillery shells.

Please do not misinterpret my concerns as being any sort of panic, because that is far from the truth. Rather, I have simply come to realize that I have not, over the years, performed appropriate due diligence to prepare for the types of major disasters for which there is ample historical precedent, and that as a result I must now diligently and methodically work to correct that oversight. Having met many other preppers over these recent years I can tell you that, unlike those depicted in the mass media, the great majority of preppers share my own long-term view and commitment. We realize that even if we were fortunate enough to avoid a major disaster in our lifetimes (not likely, unfortunately), our children very well may not. And, if they are to be ready is it incumbent on our generation to set the example by leaving a legacy of preparedness.

Decades ago, before I was an "urban professional" (read "yuppie"), I was a small town farm boy growing up in the bottom lands of West Tennessee. While in later years I would be mesmerized by the nicest car or the fastest computer, in those early days I was equally transfixed by the best fishing tackle and the best ammunition for my .22 caliber Remington Nylon 66 rifle (which, by the way, would be a **TREMENDOUS** prepper gun today if you can find one in good condition!). As I became a prepper I became re-acquainted with that earlier version of myself, and that experience alone has been worth everything I've invested into my own preparedness.

### **Purpose and Scope**

Unlike many books that seek to cover the topic of contemporary survivalism, you will find very little discussion of 'zombies' within these pages, nor will you read anything of a paramilitary nature. I will leave it to other authors to appeal to the emotional side of prepping while I seek to inform those with a more pragmatic (and realistic) streak. As the title suggests, the information distilled for you here is intended to address the needs of the common person who wishes to perform the due diligence required to have best chances of surviving a large and widespread disruption to normal life. Between these covers you'll dive into deep detail about many aspects of modern survival - **details that are intended to save lives!** For those new to prepping, this book is also intended to accelerate the evolution of your own survival-related thought processes in such a way that you'll be able to make the best, most practical decisions on how to prepare with the resources you have available.

I have been tempted to describe this book as "*part tutorial, part reference*", however also dispersed within are important "nuggets of gold" that were born from dogged research and countless into-the-night discussions with other expert preppers. (In one case in particular that involved describing the safe handling and use of certain possibly-dangerous substances,

multiple days of research were necessary before I felt comfortable composing a single paragraph.) This painstaking process resulted in a work that is more than reference or tutorial - it has resulted in a book containing insights that should serve to help the prepper (particularly those new to prepping) to *'keep their heads on straight'* about prepping.

This book seeks to cover every major aspect of disaster preparedness with sufficient detail that the reader has a 'fighting chance' to survive under the harshest conditions. The reader is encouraged to compliment this material with other high-quality references that drill down into even more detail on those relevant topics which apply most to their specific situation. I've identified some additional highly-recommended sources of information in section 15.9 in the final chapter of this book.

### **About Using this Book**

It is not necessarily intended that the reader will, as with many books, ingest the full contents from cover-to-cover and then place it on a shelf to collect dust. Rather, I envision the reader being like a bee hovering from flower to flower in no particular sequence and collecting whatever nectar of information suits the needs of the moment. It is also my intent that when the bee does settle on a flower (or, in this case, the reader's attention does settle on a chapter or section of this book) that their needs be satisfied to the fullest. So, please accept this invitation to peruse the contents, find a topic that has particular appeal, and dig in!

### **Thoughts for Those Who Feel 'Overwhelmed'**

In speaking before many groups on the subject of preparedness I have been deeply affected by the concerns expressed by those who sense danger ahead but feel that they are not physically and/or financially able to adequately prepare. Before plunging into the facts and figures of preparedness I want to share a message of hope with those who have this feeling of helplessness.

For those who have some financial means but have physical limitations I would suggest working to team up in advance with those who are physically capable but have no financial resources. In building such relationships you must be **EXCEEDINGLY** careful. Don't trust anyone just because you are related to them, and don't trust someone in this role just because you 'like' them. Also, you should disqualify anyone who has any strong fondness for **any** narcotic or intoxicant. Age should not be a strong factor if they bring the physical ability to the table (I have known as many people of high character who were young as who were older). A potential partner's or employee's political beliefs should not be a factor (once again, I've known as many people who would qualify for total trust who were liberal as were conservative). As an example, if you know someone you can implicitly trust who has

a strong interest in working on cars but cannot afford tools or advertising, then you might team with them to start an auto repair business (even if it's just a 'shade tree mechanic' business that places free ads on The Internet).

For those who have physical limitations and have little or no financial means let me assure you that there is one service you can offer for sale (or with which you can barter) that will be in great demand. That service is 'security'. **Even if you are in a wheelchair you can hold a gun in your lap and watch a door.**

For the types of disasters potentially facing us today I will assure you that a single bucket of food and a single round of ammunition can, under the right circumstances, be well worth ten times its weight in gold. A simple bar of soap, roll of bathroom tissue or tube of antibiotic ointment would have tremendous value. Those little flattened, dehydrated sponges that take up almost zero space until water is added will likewise be worth a king's ransom (you'll understand why when the bathroom tissue runs out!).

In addition to doing what you can to prepare, the most important thing you can do has absolutely zero cost - and that is to become a little more physically fit every week. If your mind is becoming stronger, and your body is becoming stronger, then your perspective will begin to improve and that feeling of being a victim will be replaced with a positive feeling of empowerment and self-determination.



# 1. Introduction

*“And God said unto Noah,  
The end of all flesh is come before me;  
for the earth is filled with violence through them;  
and, behold, I will destroy them with the earth.”*

Genesis 6:13-14

Recent news and events, such as the devastating earthquakes in Haiti, Chile and Japan, as well as international unrest associated with the world economic turmoil that began in 2007, have caused many people to start to give serious consideration to getting prepared for disasters that, in previous years, would have been unthinkable.

While the subject of disaster preparedness is sufficiently broad and deep that no single book can cover the topic completely, this was written to be the book you would want to have if you could ‘only take one book with you’. Even the bright red cover was intentionally designed to make it stand out on a crowded bookshelf - ready to grab-and-go at a moment’s notice!

In recent months the popular term ‘*prepping*’ has been coined to describe this process and those involved in prepping are often referred to as ‘*preppers*’. In years past the term ‘*survivalist*’ has been used to describe those actively involved in disaster preparedness, however with the passage of time this term has, rightly or wrongly, come to be associated with militant and/or anti-social behavior. Throughout this book I will use the words ‘*prepper*’ and ‘*survivalist*’ interchangeably.

Most modern-day preppers are neither militant nor anti-social, and they are as focused on planning, provisioning and gaining new skills as they are on security and defense. This is the audience for whom this book is primarily intended.

Within the United States the governmental agency *FEMA* (the Federal Emergency Management Agency) is tasked with responding to major disasters. However, it is conceivable that FEMA will not be available in all cases. In fact, there are already plenty of examples of major disasters that have profoundly affected the lives of Americans to which FEMA has

## 1. Introduction

either not responded, or not responded in a manner that addressed the full needs of all victims. This book is intended to provide information and inspiration to people (of all nations) who wish to be prepared to cope with disasters without necessarily relying on governmental assistance.

Chapter two identifies those things that the beginning prepper can do immediately even before diving headlong into the remainder of the book. This chapter was motivated by the belief that, as it is human nature to procrastinate, many readers who finally do decide the time has come to prepare will be anxious to get started. While presenting the reader with a condensed action list, much of the underlying rationale for those recommendations is deferred to subsequent chapters that provide detailed information.

### The Prepper Mindset

Over time the prepper's concept of potential disaster scenarios evolves. Consequently, new preppers often make less-than-optimal decisions with regard to how to expend their limited time and budget. By understanding the more evolved mindset of experienced preppers the new prepper gets a stronger start and will make informed decisions.

Key elements of the prepper mindset include:

- Working under the assumption that government agencies will not be available to assist (or even assuming that they may actually work against the best interest of survivors). In recent years there has been plenty of experience to suggest that the government is not capable of addressing all emergency needs in a timely manner.
- Regularly creating and reviewing plans and lists. - The prepper has plans and lists for every contingency.
- Thinking in 3-month intervals - Many preppers tend to think in terms of preparing first for a 3-month disaster. Once that is achieved then the goal is moved out in successive 3-month intervals. This mindset allows the prepper to keep bounds on their activities so that the entire process remains manageable.
- Considering all perspectives of all disaster scenarios. - The prepper strives to be able to address any challenge posed by a disaster scenario (e.g. medical, self-defense, food, water, fuel, power, etc.).
- Constantly expanding and evolving their prepping-related thought processes.
- Understanding and appreciating the value of community. - The prepper understands and appreciates the principle of '*strength in numbers*'.



- Making the most efficient use of resources. - The prepper realizes that every resource in his or her possession can eventually be consumed, and so sets a priority on conserving those resources to the greatest extent possible and practical.
- Planning for all stages of disaster. - The prepper is always thinking forward to (and planning for) all stages of any expected disaster.
- Constantly giving consideration to operational security (*OPSEC*). - The prepper does not overly advertise the things they are doing or the current status of their preparations. Otherwise, in the event of disaster, it is very possible that what resources they have been able to accumulate could become "community property".
- Building bonds with like-minded individuals. - It is natural for preppers to communicate with other preppers to exchange ideas and opinions. This process naturally leads to building up a trusted base of friends and associates.
- Thinking like a Boy Scout. - Preppers often discover that the new knowledge they gain in the course of preparing is empowering. This rewarding sense of empowerment has a self-reinforcing effect with regard to gaining new skills, knowledge and capabilities. It is not a coincidence that the Boy Scouts' motto is '*Be Prepared!*'.

**NOTE:** *Be aware that all individuals engaged in prepping do not have a true prepping agenda or prepper mindset. Some attempt to join prepper communities to cultivate commercial opportunities while others use prepping as an excuse to pursue personal interests such as gun collecting or hunting. You can generally recognize such posers by the fact that they will overly emphasize one aspect of prepping while paying very little attention to others.*

### **Commonly Encountered Preparedness Terminology**

Certain terms and acronyms have been adopted as common jargon within the disaster preparedness community. Some of the terms most often encountered include:

- *BB&B* - "beans, bullets and band-aids" - often used to refer to the most basic disaster preparedness provisions.
- *Bug Out* - To evacuate when faced with imminent disaster.
- *Bug In* - To elect to remain in place when faced with imminent disaster.

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- *Bugout Bag* - A bag or other container that has been pre-loaded with provisions to "grab and go" when bugging out.
- *Cache* - As a verb this refers to the act of hiding away emergency food and gear. As a noun this refers to a location where emergency food and gear are concealed (often buried) for access in the event of some future disaster.
- *COMSEC* - an acronym for "communications security", which refers to taking measures to preserve the confidentiality of your communications (which could include the use of encryption or pre-defined "code words").
- *OPSEC* - an acronym for "operational security", which refers to keeping information about your prepping activities "close to the vest".
- *Every Day Carry (EDC)* - refers to items that a person carries on a daily basis in order to have some minimal degree of readiness at all times. Some EDC items may be as innocuous as a wrist watch or an ink pen.
- *Get Home Bag (GHB)* - refers to a bag that is often kept in an individual's vehicle that has been packed with items that better enable the driver to return home under disaster conditions that could disrupt routine travel. By definition all GHBs should, at a minimum, contain maps of local road systems and terrain.
- *GOOD bag* - "GOOD" is an acronym for "get out of Dodge". A "GOOD bag" is another term for "Bugout bag" (see above).
- *Gray Man* - refers to an individual who dresses and otherwise presents himself in such a way as to not stand out in a crowd.
- *Grid* - originally 'the grid' referred to the electrical grid. More recently, however, the term applies to the flow of both electricity and information (for example, credit card transactions result in information flowing across 'the grid').
- *Grid-down* - refers to a situation in which the normal flow of electricity and information is disrupted.
- *LEO* - an acronym for "law enforcement officer".
- *LP/OP* - a military acronym for "listening post/observation post", which is a location that has been specially prepared for keeping watch.
- *MAG* - an acronym for "mutual assistance group" - a group of individuals that have banded together to form a survival community (note: this group, especially pre-disaster, may not necessarily be living together in a common location.).
- *MRE* - an acronym for "meal, ready-to-eat", which refers to pre-prepared packages containing ready-to-eat meals that typically have a storage shelf-life of several years.

- *Normalcy Bias* - the natural tendency for an individual to believe that their current reality will not be subject to dramatic change - particularly as the result of a major disaster.
- *Off-grid* - refers to a location or situation in which electrical power and the electronic flow of information is unavailable or disrupted.
- *Prepper* - a modern-day survivalist who is actively preparing to survive major disasters.
- *Preps* - an abbreviation of the word '*preparations*' (sample usage: "*These are my food preps.*").
- *SERE* - a military acronym that, in the US, means "Survival, Evasion, Resistance and Escape" and in the UK means "Survive, Evade, Resist, Extract".
- *Sheep* - refers to individuals who passively follow orders and accept assurances of safety from those in positions of power.
- *SHTF* - a prepper acronym for "shit hits the fan" - the time when major disaster strikes.
- *Situational Awareness* - refers to maintaining a keen awareness of things that are transpiring in your immediate environment.
- *Survivalist* - someone who is intensely involved in attaining a state of complete self-sufficiency (a.k.a. "a prepper on steroids").
- *TEOTWAWKI* - an acronym for "the end of the world as we know it".
- *WROL* - an acronym for "without rule of law" - a situation of lawlessness.
- *Zombies* - refers to desperate and dangerous refugees who would appear in the aftermath of a major disaster.

Most chapters of this book start with a '*Straight Thinking*' box that summarizes the most important takeaways from that chapter. I would recommend you start by visiting each chapter and reading that little summary. In this way you're starting with the "big picture". I would then recommend that you identify specific chapters that you feel are most important to your situation and dive into those chapters individually.

It is expected that some chapters will be of more universal interest. The '*Planning*' chapter is a good example (**also, this is one of the best disaster planning references available in the Author's not-so-humble opinion**).

Other chapters, such as the first aid chapter, have some content that will be of greater interest when actually needed. For example, the procedures for treating various forms of

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trauma will be most helpful when facing those situations (although the lists of recommended medical supplies in that same chapter should be of immediate interest).

The bottom line is that this book is intended to serve as both a general learning tool as well as a reference guide. As such, **it is expected that the reader will skim some content while focusing intently on other content.** When faced with an actual disaster, however, every word contained in these pages will be golden!

### Of Most Immediate Interest

While all of the information presented in this book is intended to fill important needs during time of crisis, the great majority of it also applies to the 'here-and-now'. Areas of particular interest in a pre-disaster context include:

- Chapter 2 (*'Getting a Quick Start'*) - identifies actions the prepper can and should consider taking immediately.
- Chapter 3 (*'Bugging In, Bugging Out and Disaster Planning'*) along with companion Appendices A and B - provides a detailed road map for single- and multi- site disaster planning.
- Chapter 4 (*'Emergency Drinking Water'*) - helps the prepper to identify water purification supplies and equipment that will be needed.
- Chapter 5 (*'Emergency Food'*) - describes the preparation and proper storage and use of emergency food supplies.
- Chapter 6 (*'Disaster Communications'*) - identifies communications equipment that the prepper should consider adding to their emergency inventory.
- Chapter 7 (*'Emergency Fuel and Power'*) - discusses fuel storage and usage strategies.
- Chapter 9 (*'Hygiene and Sanitation'*) - identifies supplies and equipment that should be stockpiled before disaster strikes.
- Chapter 10 (*'First Aid'*) - identifies first aid equipment that should be stockpiled (some sections of this chapter, such as those describing first aid procedures, may be of greater interest in a post-disaster scenario as they are needed).
- Chapter 12 (*'Home and Community Defense'*) - identifies defensive measures and strategies that apply at the household and community levels.
- Chapter 13 (*'Survival Farming - Achieving Self-Sufficiency'*) - provides detailed instructions for raising crops and small livestock.
- Chapter 15 (*'Next Steps'*) - identifies follow-on actions that can be taken and supplies that should be stockpiled by the serious prepper.

- Appendix C (*'Acquiring Precious Metals as a Preparedness Strategy'*) - describes how some preppers might benefit from storing some precious metals for post-disaster use.
- Appendix D (*'Guns and Ammunition - 101'*) - provides a good introduction to the selection, use and maintenance of guns.



## 2. Getting a Quick Start

*“I’ve got to start i’ve got to go  
there is something i have to do  
not sure what awaites me  
eyes wide open i will see  
into the darkness or into the light  
the rainbow warriar will start his fight”*

'Getting Started' by David Alexander Findlay

Given the condition of the world and the news of the day it is completely understandable that anyone interested in preparedness might feel a need to start **doing something** as quickly as possible. This chapter is intended to give those new to prepping a good, strong start. As you read and begin to act on some or all of the recommendations made in this chapter you can continue into this book while taking comfort in the knowledge that many of the bases are already being covered.

**NOTE:** *The recommendations made for the basic preparedness steps in this chapter represent several years of study and analysis. While conforming to these recommendations will carry some cost, these are basic 'starter preps' and the costs should be more than offset by your own time savings. Once these steps are taken you will be in a **much** stronger position to deal with any disaster.*

Before taking any steps, determine the number of people that you intend to provide for and the time period, in days, for which you are preparing (your '*planning period*'). For many preppers a 90 day planning period is a reasonable fit, with the understanding that additional provisions can be secured later to extend that period. Multiply the number of people times the number of days in your planning period to calculate the number of 'PersonDays' that will be referenced throughout this chapter.

## 2. Getting a Quick Start

The quantities of dried beans and rice described below are based on a beans-and-rice meal consisting of three ounces of dried beans and three ounces of dried rice (the proportions of beans to rice for many beans and rice recipes is one-to-one). The calculations also assume that two meals each day will have beans-and-rice as the main meal constituent (beans and rice provide a good, although not perfect, balance of proteins and carbohydrates).

The following sections are organized into areas in which you can begin to work immediately, with suggested preparations for each area.

### 2.1. Initial Food Preps

- Make sure your pantry is filled with canned and dried foods that have a shelf life of at least 6 months and which will be palatable to everyone in your group. If possible identify and/or install additional shelves to extend your pantry storage.
- Purchase and store large containers of your preferred peanut butter, as well as a good quantity of raw, unfiltered honey. Store a supply of crackers with the peanut butter.

**AUTHOR'S NOTE:** *I recommend peanut butter for several reasons. It packs a good combination of energy, fats and proteins into a small space, it is palatable to most people (except, of course, those with peanut allergies!) and it can add much-needed variety to the survival diet. I have recently consumed my own emergency store of peanut butter 18 months after storage and it was as satisfying as if it had come right off the shelf at the store.*

*Raw, unfiltered honey is recommended because it packs a lot of food value into a small space, has an almost-indefinite shelf life, and has successfully been used as a topical antibiotic for centuries[375] ('Manuka Honey' from New Zealand has a particularly good reputation for its antibiotic properties[378]).*

- Acquire and store a large container of multi-vitamins, and a large container of high quality protein powder. Also consider storing a supply of candy bars, which might provide a source of quick energy or which might be used as a treat to provide some psychological uplift during stressful times.
- If you are considering the option of evacuating to another location (a.k.a. 'bugging out') then obtain a sufficient quantity of MREs to provide food for everyone in your group while they are in transit.



## 2.1. Initial Food Preps

- Dried beans and dried white rice, vacuum-packed in mylar bags, are a cost-effective source of important proteins, carbohydrates and other nutrients. When properly packed these foods can store at room temperature for as long as 25 years. If you plan on dry-packing beans and rice in this way then you can start by doing the following:
  - Acquire a ‘food saver’ with a vacuum tube attachment and at least one vacuum-sealed jar (for storing oxygen absorbers between uses).
  - Acquire dried white rice and dried beans (black beans and pinto beans are good candidates, and often available in larger-size bags at wholesale food sources). The number of pounds of each can be calculated by multiplying 0.375 times the value for “PersonDays” you have already determined.

**NOTE:** *With the exception of long-term food packed in mylar you will actually be consuming your food stores over time. This allows you to adapt to your emergency foods, and even more importantly enables you to replenish your food supplies before they approach their expiration date. If the economy happens to be inflationary (when it is **not** inflationary?) then storing back food supplies in advance will actually **save** you money.*

*Even stored vitamins and protein powder should be consumed regularly and replenished.*

- Acquire or order food-quality plastic buckets and mylar bags (4.5 - 7 mils in thickness) for long-term food storage (see section 5.2). The minimum number of 5-gallon buckets and 5- or 6- gallon sized mylar bags to obtain can be calculated as the number of pounds of dried beans and rice combined divided by 10.

Also acquire a quantity of 3-gallon food-grade plastic buckets to store smaller quantities of other recipe ingredients such as sugar, salt, bullion and spices. Ordering one 3-gallon food-grade bucket for every three 5-gallon buckets should be sufficient. Section 5.2 provides instructions for dry-packing dried beans and dried white rice in mylar bags and plastic buckets.

- Obtain a clothes iron and any solid object with a flat surface that is about 1/4 inch thick and about 12 inches long for heat-sealing mylar bags after they have been filled with food. (The edge of a half-inch-thick wooden board works just fine as a backing to iron against to seal the bags).

## 2. Getting a Quick Start

- Obtain 1 or 2 pounds of food-grade diatomaceous earth powder (1 tablespoon of 'DE powder', sprinkled over food before sealing, can provide further protection against insects).

## 2.2. Initial Water Preps

It is conceivable that in a major disaster normal water supplies may become unavailable and/or contaminated. Because humans can only live a few days without water it is critical to take steps to ensure that drinking water remains available. The most spartan estimates strongly recommend that a ration of 3 gallons of water per day be planned for each individual in your group. Those 3 gallons break down roughly into 1 gallon for drinking, 1 gallon for cooking and 1 gallon for sanitation purposes. The following measures will enable you to begin to meet, and possibly exceed, these minimum needs:

- Obtain a high quality 'gravity-fed' water filter that has a 'pore size' no larger than .1 micron and which is labeled as a 'water purifier'. It is strongly recommended that you read chapter 4 before making your purchase decision. In addition to obtaining the water filter, obtain a sufficient quantity of spare filter elements to process 3 gallons per day for each individual in your group for your planning period.
- Obtain several large, food-rated bottles for storing filtered water. The plastic bottles used by many water coolers are ideal for this purpose, however thoroughly-cleaned plastic milk jugs will also work.
- Keep one gallon of regular household bleach (without additives) stored at all times, being sure to rotate through it once per year.
- Consider purchasing and storing at least 1 pound of granular calcium hypochlorite, being sure to store it in a proper container and away from food (see sections 4.10.1 and 4.10.2 for important information about storing and using this potent chemical for water purification).
- Obtain one or more water barrels that are made of food-grade material and which have not been used to store anything other than foods. Obtain at least 225 square feet of heavy plastic sheeting to be available for rain water collection. (Depending on the weather at your location and the size of your group these may not be sufficient to meet your needs. Refer to section 4.13 for instructions for better calculating your specific needs.)

## 2.3. Initial Defensive Preps

History (especially recent history) has demonstrated repeatedly that in the wake of disaster there are those individuals who are willing to do anything necessary to obtain the items they need to survive. As a consequence it is necessary to plan to defend yourself and your property. Such measures might include:

- If you do not already have a gun for home defense, acquire one, along with at least 100 rounds of ammunition. Appendix D provides information to help you make informed gun and ammunition decisions.
- For any guns you may already own, confirm you have at least 100 rounds of ammunition. For handgun cartridges, the ammunition used for actual defense should be *'hollow-point'* or *'soft-tip'* ammunition, rather than *'ball ammo'*. For shotguns confirm that you have at least 100 birdshot and/or buckshot shells.
- Consider having one or more dogs of a breed that has a good reputation as a home-defender (see section 12.6). (This will, of course, commit you to storing food for the dogs, just as you would for any other members of your group.)
- Consider installing a home alarm system (although good home defense dogs should be considered preferable, as they function as both a deterrent and a detector, and because they do not require electricity).
- Obtain spools of medium gauge wire, numerous eye bolt screws, a number of small bells and some wire cutters. These can be used to erect 'webs' of trip wires known as *'tanglefoot'*<sup>[428]</sup>, which can serve to both detect and impede intruders. (**CAUTION:** an obstacle such as tanglefoot has the potential to cause serious injury, and should be put into place only under dire circumstances.)
- Obtain a number of strongly-worded warning signs that you can post around your property to dissuade intruders.

## 2.4. Initial Communications Preps

With good communications you can gain advance notice of the security situation within your area and adjust your own actions and plans accordingly. There will also be a need for regional and local news. Even if the phone system is still functioning, person-to-person communications will almost certainly not be a good way to gather timely information. When traveling, good communications can often enable you to avoid impassable or insecure routes. The following measures will address many of these security needs:

## 2. Getting a Quick Start

- Obtain an emergency radio receiver that can accept regular or rechargeable batteries and obtain several sets of extra batteries for the radio.
- Strongly consider installing a CB radio in all vehicles that may be used during the disaster or during the recovery period. (See section 6.4.6 for a discussion of the advantages of CB radios and their significant usefulness during disaster.)
- Consider obtaining a police-band scanner.
- Consider obtaining a number of small, handheld 'FRS' or 'GMRS' two-way radios for use around or near the property. (Refer to chapter 6 for details about the various handheld radio devices that are available.)

## 2.5. Initial Sanitation Preps

In the aftermath of the recent major earthquake in Haiti thousands of people died due to poor sanitation. Proper sanitation is as critical to survival as having good sources of food and water. The following measures will allow you to address many of your sanitation needs in a post-disaster scenario:

- Store a good supply of bathroom tissue and other consumable personal hygiene items. Also purchase a good supply of dehydrated sponges in a variety of sizes (when the aforementioned supply of bathroom tissue is exhausted the usefulness of these sponges will make itself known!).
- Obtain and store one or more 40- or 50-pound bags of dry lime power that can be used to help sanitize human waste if there is a disruption of utilities (consider each bag to be sufficient for 250 person-days).
- Obtain some sort of emergency toilet, which may be as simple as a 5- or 6-gallon plastic bucket with a special lid that allows a person to sit over the bucket and use it as a toilet.
- Obtain a shovel that can be used to bury any biological hazards, including covering human waste.
- Obtain and store large containers of regular and anti-bacterial liquid hand soap with dispensers for each.

## 2.6. Initial Medical and First Aid Preps

While a good first aid kit contains much more (see chapter 10), obtaining the following items will allow you to deal with the great majority of common first aid needs:

- Tubes of antibiotic ointment (to extend shelf-life store refrigerated - but not frozen - if possible)
- Elastic bandages for sprained ankles, etc.
- A good quantity of medical gauze
- Sterile bandages
- Adhesive bandages for minor cuts and abrasions
- Tweezers for removing splinters
- Medical tape
- Rubbing alcohol, hydrogen peroxide and Betadine
- Epinephrine
- Safety pins
- Aspirin
- Cotton swabs

The quantity of the above items obtained should be consistent with the size of your group.

## 2.7. Initial Fuel and Energy Preps

Even a modest supply of fuel and other energy stores can make a critical difference in a post-disaster scenario. If, for example, you have sufficient batteries to power your radio for 2 weeks, and during those 2 weeks that radio provides you critical instructions for obtaining much-needed assistance, then obviously those few batteries made all the difference.

## 2. Getting a Quick Start

**AUTHOR'S NOTE:** *I am stating this rather obvious example of the importance of even limited resources because for some reason, when it comes to disaster preparedness, it seems that many people have a tendency to resign themselves to becoming victims simply because they cannot afford to put in place perfect preparations that guarantee their survival under all circumstances. (In the 1960's this is what was referred to as a 'cop-out'.)*

The following measures will allow you to meet some important basic needs for a few days to give you time to adapt or for other opportunities for relief to make themselves known:

- Obtain spare tanks of propane for any propane-fueled cooking grills you may have.
- Obtain spare batteries for all emergency radios, flashlights and other battery-powered electronic devices you may use during the disaster and recovery period.
- Strongly consider obtaining a one-room portable air conditioner, a generator that is capable of powering it and a heavy electrical cord (or cords) to connect the generator (which will be outdoors) to the air conditioner. Obtain fuel containers for fuel to power the generator and 'fuel stabilizer' additives to extend the storage life of the fuel (see chapter 7 for more details on this topic). This air conditioner and generator may only be sufficient to provide cooling for a couple of hours each day for several days, however that will buy you time to become better acclimated and perhaps make other arrangements to cope with heat. You may also want a power strip to enable you to plug in other devices in addition to the air conditioner (your generator may also require a special power strip).

During the hot summer months, and particularly in the cases of those who are infirm due to age or medical conditions, this measure may make the difference between life and death.

In addition to the above tasks there are some procedures that need to be initiated. One procedure alluded to in the above lists is the regular consumption of stored foods such that newer foods are regularly being restocked. Another procedure that needs to be initiated is a practical diet and exercise program.

As a prepper, because you don't want to risk injury unnecessarily, you should develop a different concept of exercise. This new concept is to push yourself each week to become just a little more capable than you were the week before. See Chapter 11 for ideas on diet and exercise that you may be able to incorporate into your own personal fitness plan.

**AUTHOR'S NOTE:** *Living in the state of Florida, and in a modern home that is not designed for natural ventilation, I have experienced summertime air conditioner outages that rendered our home virtually uninhabitable within a mere 2 hours.*

*After these incidents I became a little introspective and realized that this was not entirely the fault of my home's design. Had I been in better physical condition I could have toughed it out overnight and saved myself some hotel expenses.*

*Since that epiphany I initiated the first truly serious diet of my life. That was nearly a year and 85 pounds ago, and every day I become stronger and better able to endure the hardships that I am increasingly certain lie ahead.*

As a final step in getting a quick start as a prepper you should begin to develop your disaster plans. You can start this process by doing the following:

- Identify and document the 'chain of command'.
- List any bugout destinations and criteria for bugging out.
- Identify all locations to be covered by your plan (e.g. your home, bugout destinations, locations where other group members reside, etc.).
- Identify emergency provisions to be kept at each location.
- Develop a pre-bugout checklist of things to do prior to bugging out from any location.
- Describe preferred travel routes between all locations.

These steps will provide you with a simple disaster plan. Please refer to chapter 3 for instructions on developing a much more comprehensive plan.

This chapter has provided suggestions for first steps that you can take on your path to preparing for a worst case scenario. The intent has been to enable you to begin ramping up quickly. The remainder of this book will provide additional background on the rationale behind these suggestions, as well as numerous additional preparedness recommendations and a wealth of information on virtually every aspect of prepping.





### 3. Bugging In, Bugging Out and Disaster Planning

*“Let our advance worrying  
become advance thinking and planning.”*

Winston Churchill

**AUTHOR'S NOTE:** *I must confess that the task of family disaster planning has been one of the aspects of preparedness in which I have procrastinated the most. The process of putting together a plan just seemed a little overwhelming. The information contained in this chapter should provide any prepper with all the information needed to put together a practical disaster plan.*

*Originally it had been my intent to cover the topics of bugging in and bugging out in separate, dedicated chapters. However, as I began to work and re-work the concept of disaster planning, I became aware that bugging in and bugging out are fundamental strategies, and as such they are inseparable from planning. You can't realistically bug out unless you have identified a destination, and having a destination implies that you are executing a plan. Similarly, you can't stay put without having made plans for dealing with the challenges presented by that decision.*

*I concluded that a proper treatment of the topics of bugging in and bugging out required that they be covered as an integral part of disaster planning.*

### 3. *Bugging In, Bugging Out and Disaster Planning*

## 3.1. **Contemplating the Future**

It is not possible to predict the future with any degree of certainty, however everything we have seen and heard in the news for years suggests that “green shoots” are not around the corner. Indeed, it seems that our level of civilization retreats noticeably with each passing day.

In other words, things may very well not get better before they become far worse! In one scenario the developed nations may gradually devolve to something resembling Mexico, and in worse scenarios one could find oneself in the midst of a total social breakdown. It's easy to imagine that our complex and interconnected society might be a house of cards ready to tumble at any time.

In reality, the precedent for a major national disaster already exists. The Great Depression in the US provides a look at how modern societies can fall into very hard times. The first half of the classic American novel and movie *'The Grapes of Wrath'* provides a realistic view of American life during the Great Depression. The more recent movie *'Cinderella Man'* provides a possibly even better representation in that it depicts the effects on the affluent as well as the less privileged. It would be supremely arrogant for anyone to believe that what happened to that generation cannot happen today, and it would be equally arrogant to think that God is any more predisposed to alleviate our suffering than He would have been to have alleviated the suffering of the victims of earlier disasters.

Considering that today our society is far less moral and far more violent than it was going into the Great Depression, imagine how very dangerous the future can and will be! One has only to look at the past (or at Mexico today, where drug cartels control much of the nation) to have some grasp at the future for which one should prepare.

**NOTE:** *Let me somewhat ameliorate this picture of doom and gloom with a couple of important counter points. We humans have built within us a wonderful ability to adapt. When faced with challenging times we can, with sufficient opportunity, adapt and overcome. It has been experimentally demonstrated that animals living under harsh and deprived conditions can become leaner, healthier and have longer life spans.[2]*

*Prepping is all about **buying time to adapt to a new reality.** Prepping is about surviving the 'forest fire' so that, after it burns past, you can emerge into a new world that you may eventually find more to your liking than the old one. What is critical is that you give yourself the opportunity to adapt.*

## 3.2. To Stay or to Go

One of the more frequently discussed topics among preppers and survivalists is the merits of staying put vs. evacuating in response to disaster. For many preppers the conversation is moot simply because they do not have a realistic *bugout destination* or because they already live in areas that many would consider ideal bugout locations.

**NOTE:** *There is a special word in the English language for someone who decides to bug out without a clear destination in mind - that word is 'refugee'. Virtually all preppers and survivalists can agree that you want to absolutely avoid becoming a refugee.*

If you live in an urban area then you should justifiably feel that you'll be in a dangerous situation in the event of a disaster that disrupts law enforcement and other social services. However, all disasters will not be totally disruptive. Regardless of your location, if you can manage to survive for several weeks you should see levels of disorder decrease everywhere as the finite supply of energy (and ammunition!) within the community is exhausted.

There are no guarantees in the survival business - one simply does the best one can with the resources available. In doing so one greatly increases the probability that they and those they love will survive.

It should also be mentioned that bugging in and bugging out are not mutually exclusive strategies. You may very well have a plan that involves staying put as you assess the situation, and then bugging out if and when certain criteria are met (e.g. the first time you hear gunshots).

## 3.3. Bugging In

If you are committed to digging in your heels and 'staying put' in the face of any and all disasters then you can at least take some comfort in the knowledge that your planning needs are a bit less complex. You might consider using the disaster planning guidelines and examples presented in this book as a blueprint for your own. You might still have both a General Disaster Plan ('GDP') (minus the 'Travel' sections) as well as a Site Plan for your location (see section 3.6 for a descriptions of GDPs and Site Plans).

Before you start your plan give some thoughts as to how you expect to be dealing with others during the disaster. You should have '*rules of engagement*' in your mind for friends, relatives,

### 3. *Bugging In, Bugging Out and Disaster Planning*

neighbors, law enforcement and other governmental personnel, as well as for complete strangers.

Also, just because you plan on weathering the storm at home does not necessarily mean that you should plan to be a hermit. Give consideration to how you might work with others in the aftermath of the disaster. Consider ...

- getting to know other preppers and/or survivalists in your area.
- (carefully) discussing your concerns with friends and neighbors who might also share those concerns, with thoughts towards forming a *mutual assistance group* ("MAG").
- getting involved with a local church (many churches are already well-equipped with infrastructure that could make a big difference during a disaster).

You should try to anticipate the communications needs that will present themselves during a period of social disruption. Would it be useful to be able to provide walkie-talkies and defensive weapons of some sort to neighbors? Would it be helpful to have a police-band radio scanner to be aware of things happening locally? Certainly it would be advisable to have a standard emergency radio. Also, CB radios could be extremely helpful if you must travel the roads by car or truck. (See chapter 6 for detailed information on various communications technologies that are available.)

In summary, by taking some time to simply envision likely disaster scenarios you will develop a mindset that will be conducive to producing better, more realistic and more effective disaster plans.

## 3.4. **Bugging Out ('Evacuation')**

If you intend to have the option of evacuating in the event of disaster then you need to have site plans for each location, including your bugout location. Since your bugout location will almost certainly be in a different type of environment (e.g. relocating from an urban center to a small town or rural area) the plans may vary substantially.

The common wisdom within the survival community is that a bugout destination should be as far removed as possible from major population centers. Ideally it should also be a location that has a large population that is largely self-sufficient. However, there are other factors that should also be considered. For example, a small group may not be in sufficient numbers to meet their own basic security needs while also performing those tasks that are necessary to day-to-day life. A small group is also limited with regard to the size of the geographic area that it can control. If the area controlled by the group happens to be smaller in size

### 3.4. Bugging Out ('Evacuation')

than the range of a good hunting rifle then the group could be setting itself up for difficulties down the road.

Conversely, a small community may be able to preserve critical infrastructure such as municipal water supplies and sewage systems while at the same time being able to hold a large geographic area. Those living within the community might then be living under much less stressful circumstances and have more time and resources to allocate to growing and raising food and other vital tasks. This larger controlled area would almost certainly include other infrastructure that could form the basis of a new economy.

Ultimately your choice of a bugout destination is specific to your own unique situation and assessment of the future. Regardless of the destination you choose, you should have plans in place not only in support of that location but for travelling to the location as well. Among other things these plans should define the criteria under which you will begin the evacuation, travel routes between locations, and the various resources that may be available along the way (food and rest stops, lodging, etc.). By following the disaster plan guidelines presented in this chapter you can be certain that you cover these and other important planning needs.

Other important rules regarding bugging out include:

- Have food, equipment and other supplies you plan on taking packed and pre-positioned in advance.
- Perform occasional full or partial bugout drills.
- Try to scout out and take notes about all the routes between your location and the bugout destination.
- Have a pre-bugout checklist of activities to perform before bugging out, including communicating your plans to any other interested parties.
- Try to develop relationships with the inhabitants near your bugout destination in advance.
- If possible, consider permanently relocating to your bugout destination before disaster strikes.
- Visit your bugout destination in advance and pre-position supplies and food if possible. Also develop detailed maps and drawings of the site for additional planning.
- Identify or consider installing defensive features in advance.

### 3.5. Survival Bunkers

A small percentage of preppers are 'going the extra yard' and building survival bunkers to which they intend to relocate in the event of a major disaster. These bunkers are typically underground living quarters that are designed to meet all the basic needs of life. Some of these bunkers are specially built for this purpose, and others are refurbished facilities such as nuclear missile silos that are relics from the Cold War. Those that are custom-built tend to either be full-featured long term living quarters or smaller 'urban foxholes' that are intended to provide storage and shelter on an as-needed basis. These urban foxholes are often small underground rooms that have been excavated under the floor of a garage, while the full-featured bunkers are often underground living units that have been strategically located in sparsely-populated areas.

**NOTE:** *During World War II the citizens of England converted narrow, external below-ground-level stairwells into bomb shelters by covering them with arched, corrugated steel plates and 1 to 2 feet of earth.[518] These impromptu bunkers were credited with saving many lives.*

The following issues and features should be considered when planning a bunker or urban foxhole:

- Local Construction Ordinances - Many jurisdictions have regulations that do not permit the construction of fortified buildings. Be aware of how any such ordinances may affect you before you begin designing and constructing any bunker.
- Depth underground - In order to provide reasonable protection from the radiation associated with nuclear fallout, any underground bunker should be buried at least 36 inches below the surface.[519]
- Local Geography and Drainage - The underground structure must be designed such that water is not allowed to accumulate during rains or floods. Also, the probability of earthquake should be considered, with adjustments made to the design accordingly.
- Building Materials Used - Any structure buried underground may be subject to rust and other forms of corrosion and should be painted or otherwise treated before being installed.
- Structural Reinforcement - Any structure that is going to be located underground must have the structural strength to support the weight of the earth surrounding it. Domed or arched roofs can support greater weight than flat roofs, and metal columns or beams can also be used to provide needed reinforcement.

### 3.5. Survival Bunkers

- Size of group - The maximum size of the group to be using the facility should be determined in advance to provide the assurance that the facility will have sufficient capacity with regard to space and ventilation.
- Food and water storage - Space should be allocated for the storage of food and water.
- Ventilation - The bunker should have provisions for circulating fresh air from the outside. Such provisions should include air filtration as well as screening and 'U-bends' in pipes and ducts to prevent infiltration by insects and rodents. Consideration should also be given to having the ability to positively pressurize the atmosphere in the bunker so that airborne contaminants will not enter through any exposed openings. An effective air filter should make use of an *NBC filter* that incorporates HEPA-certified filter elements. NBC filters are filters that are designed to filter out nuclear, biological and chemical contaminants. HEPA filter elements are filter component types that have been certified as meeting certain very strict filtering criteria, and are often used for filtering air in such sensitive environments as surgical operating rooms.
- Sanitation - Provisions must be made for the capture and disposal of human waste within the bunker, as well as for personal hygiene. Ideally the bunker would have its own septic tank, however if this is not possible provisions should be made for the temporary containment and treatment of human waste within the bunker.
- Security - The bunker should be designed with security as a primary consideration. Measures taken should include the installation of heavy, sealed doors that open inwards (so that they cannot be blocked from opening by debris). Also, the doorways should be at a 90 degree angle to the approach to the doorway such that multiple individuals do not have space to easily work together to breach the door. The door should feature multiple deadbolts on both the side and top and/or bottom of the door, with hinges mounted on the inside of the door. Other more offensive security protections may also be put into place around the door to disable or dissuade any potential intruders.
- Communications and Intelligence - There should, at a minimum, be some way to receive radio signals from within the bunker. Additionally, it is important to have some means of viewing and/or communicating with those on the outside of the bunker (for example to determine friend-or-foe before allowing entry).
- Alternate Escape Route - Hidden escape doors may provide a last chance for survival in the event that the bunker comes under attack. One common method of creating such doorways is to fill the escape hatch with sand such that it can be emptied into the bunker to provide a clear exit.
- Energy - Plans should be made for the use of batteries and/or external generators (and associated fuel storage). Some source of energy will be needed in all cases, even if only to provide for lighting and radio communications.

### 3. *Bugging In, Bugging Out and Disaster Planning*

- Redundancy - If possible all bunker-related issues and features listed here should be addressed through multiple measures.

#### **Shipping Containers as Survival Bunkers**

Many preppers and survivalists advocate the use of new or slightly used shipping containers for the construction of survival bunkers. These containers are attractive because they are sturdy, pre-fabricated and can be purchased for reasonable costs compared to the cost of other bunker options. Shipping containers are typically either 20 or 40 feet in length and 8 feet wide. The 20-foot containers are 8 1/2 feet in height, while the 40 foot containers can be 8 1/2 or 9 1/2 feet in height. With proper reinforcement multiple containers can be linked and structurally reinforced to provide larger usable space (or multiple containers may simply be used individually).

Due to the space constraints imposed by shipping containers it is common to install fold-down bunk beds along the inner walls of containers that are intended to serve as sleeping quarters. This allows the sleeping space to be used for other purposes during non-sleep times, and also provides additional seating and storage options when the beds are not needed for human occupancy.

**AUTHOR'S NOTE:** *There are many excellent companies that manufacture and install survival bunkers.*

*While planning for a bunker I recommend that you consider the possibility that attackers might be able to overcome a bunker's defenses by compromising the ventilation system (essentially 'smoking you out').*

*When planning to hunker down in a bunker for an extended period, you should anticipate how the social structure in your area may change while you are sheltered. If you have not participated in building the new community then you may find yourself pretty low on the totem pole when you emerge!*

## **3.6. Disaster Planning**

Imagine for a moment that you have just turned on your television and learned that a major national disaster is underway. The nature of this disaster is of such severity that you immediately realize there is real potential for social breakdown and violence (let's face it, in



today's world even the results of a sporting event can result in violent riots in the streets, so imagine what is possible in the event of a major disaster!).

Under these circumstances even the most hardened, well-prepared person or group can and will feel that urge to panic. These are **\*NOT\*** the circumstances under which anyone has the ability to plan. However these are **\*EXACTLY\*** the circumstances under which everyone would greatly benefit from having a pre-defined plan outlining exactly those tasks they need to be performing. If you have a plan, then that nervous energy can be put to good use. If you don't have a plan then your chances of survival are greatly diminished.

Those having a plan to execute in the event of a disaster are not the ones who are going to be greeted by empty supermarket shelves.

The following sections, along with companion appendices A and B, will provide you with all the information and examples you'll need to develop an effective disaster plan for yourself and/or your family or *mutual assistance group* ("MAG").

A good disaster plan should guide the actions of your group from the instant that a disaster is declared until final recovery. The time between disaster declaration and recovery may be only days, or it may persist for months or even years. During that time it may become necessary to adjust and adapt the plan, but it should nevertheless provide a strong framework for the group throughout that period.

#### **The General Disaster Plan and Site Plans**

To be comprehensive there should be a separate *General Disaster Plan* ("GDP") that covers all sites where members of your group reside in addition to a Site Plan that is specific to each site. Of course if you are only concerned with a single site then the GDP can just be incorporated into the Site Plan however, if there is the potential for the plan to be expanded in the future to cover other sites, then it is advisable to keep the GDP as a separate document.

The GDP includes:

- A list or table of all alert levels and the criteria for declaring each alert level.
- A list of roles and responsibilities (especially identifying the "chain of command", with only the available person highest up the chain being able to declare disaster levels).
- General guidelines for travel.
- General guidelines for communications (radio frequencies and channels, best communication times, code words, etc.).

### 3. Bugging In, Bugging Out and Disaster Planning

**NOTE:** A NOTE ABOUT 'PROCUREMENT':

*An unfortunate reality is that most people are unable to obtain, in a timely fashion, all the supplies that they believe might be needed to deal with a major, long-term disaster. However, what everyone **CAN** do is to plan on obtaining those supplies should the sense of urgency increase. They can also develop plans for tasks to carry out if and when normal life is disrupted.*

*While you may not be realistically able to have a henhouse in your back yard right now, you can **PLAN** to obtain the materials to construct one, and you can have instructions for assembling it printed and available. In this way you give yourself a fighting chance to act quickly at the onset of disaster (maybe before most people in your area even begin to understand what has happened).*

*Of course you want to be ready to move quickly when disaster strikes - this is why the plan is critical. As you read on you'll come to understand that one important aspect of the disaster plan is procurement (obtaining needed supplies). If there are supplies that you need to obtain at the last minute then you need to have pre-defined where you are going to go to obtain them and the order in which you can most efficiently visit those locations. Additionally, you may plan for multiple procurement trips to take place concurrently and specify the individuals in your group who will be making each trip.*

*In some cases it may make sense to pre-identify call-ahead numbers and shopping lists so that items may be waiting for you at the checkout counter when you arrive. At this point you should be starting to understand the **TREMENDOUS** advantage of a disaster plan - it allows you to live more comfortably with the knowledge that while you won't necessarily have all the supplies you would ideally want to have, you at least have a plan in place for quickly obtaining them.*

- A full list of contacts, including names, addresses, phone numbers and any special notes.
- A list of basic emergency supplies and equipment that should be kept on hand at each site.
- Travel maps between all sites with routes and travel resources (fuel stops, food stops, rest stops, lodging, etc.) labeled and highlighted, and a table that provides additional information for each such resource labeled on each map.

**NOTE:** *Appendix A provides a sample of a GDP for a hypothetical family living in Tampa, Florida with one college-aged family member residing in Tallahassee and with a family bugout retreat located in Ocala (Ocala is a good example of a mid-sized city that has an industrial infrastructure that may enable the area to recover from disaster faster than other more densely-populated and urbanized areas).*

Each Site Plan should contain the following sections:

- *Inventory List* - a list of items, in addition to the inventory items listed in the GDP, that need to be pre-procured and readily available for this specific location.
- *Procurement Plan* - defines pre- and post- procurement activities, and organizes procurement destinations into individual 'shopping trips' (allowing multiple shopping trips to be performed concurrently). The Procurement Plan breaks down into the following sub-sections:
  - *Pre-procurement Tasks* - a list of things to do before the procurement trips commence. One example might be to fax a shopping list to a local store that is willing to pre-gather the items for quick checkout when you arrive. Another example might be to fill up the gas tanks in vehicles before commencing the shopping trips.
  - *Procurement* - includes a of list procurement trips and associated waypoints, and for each waypoint a list of items to be acquired. To minimize time at each waypoint these items should be listed in the order in which they should be gathered. Developing this list may require you to make some notes about the layout of each destination.
  - *Post-procurement Tasks* - a list of tasks to perform after procurement trips have been completed (e.g. **build** the henhouse now that you have acquired the requisite tools and supplies).

### 3. Bugging In, Bugging Out and Disaster Planning

**NOTE:** *Each trip, procurement destination and procured item may be qualified by criteria indicating under what circumstances it is to be procured. Most commonly this criteria will be the alert level. This means that the destinations you visit and the supplies you procure may vary based on the specific circumstances. See Appendix B for an example of a disaster plan with these types of conditional criteria.*

- *Defense Plan* - identifies all defensive measures and strategies to be used to defend the site. This can include alarm systems, guard and watch dogs, weapons, identification of defensive locations, a discussion of tactics and schedules and activities for defensive drills. This plan should cover the following topics:
  - *Layered Defenses* - how multiple protections are to be implemented.
  - *Deterrence* - how potential intruders are to be discouraged.
  - *Intrusion Detection* - how intruders will be detected and rules of engagement.
  - *Use of Deception* - how deception will be employed.
  - *Intelligence Gathering and Communications* - how defense-related information will be obtained, stored and communicated.
  - *Fixed Fortifications and Defenses* - discusses defensive barriers and how they will be used.
  - *Response* - discusses responses to intrusion attempts, including the use of concealment, tactics, communication and strategies.
  - *Community Defense* - discusses how the group will contribute to the defense of the surrounding community.
- *Energy Plan* - identifies power sources that will be available at the site and the policies for regulating energy usage.
- *Food Plan* - identifies how food is to be rationed, as well as how food is to be grown, raised or otherwise obtained.
- *Water Plan* - identifies how water is to be collected and rationed.
- *Sanitation Plan* - identifies hygienic practices and policies as well as how human waste is to be managed and disposed of.

### 3.6. Disaster Planning

- *Daily Activity Plan* - identifies tasks that are to be performed on a regular basis. This should include provisions for all members of the group to get a reasonable amount of regular exercise.
- *Medical Plan* - identifies plans for dealing with disease and injuries within the group (including quarantine policies for anyone joining the group).
- *Commerce Plan* - identifies plans for exchanging goods and services with others in the aftermath of a major disaster.
- *Evacuation Plan (a.k.a. "Bugout Plan")* - this section of the plan exists to facilitate any strategic relocations. The evacuation plan breaks down into the following subsections:
  - *Pre-departure Checklist* - this is similar to the checklist an aircraft pilot reviews before takeoff. It is a list of things to be certain to have on hand, or tasks to complete, prior to evacuation.
  - *Evacuation Routes* - identifies the routes that might be taken to reach the pre-defined evacuation site(s). Multiple routes are necessary as, depending on the nature and scale of the disaster, some routes may become 'problematic'.
  - *Evacuation Arrival Checklist* - lists the tasks to be performed immediately after arriving at the destination, and may optionally assign specific tasks to specific individuals or groups.

**NOTE:** *Everyone covered by the disaster plan should be provided a full copy of the General Disaster Plan in addition to **all Site Plans**. In this way everyone is better prepared to render assistance to other group members who may experience problems in transit.*

Please refer to Appendices A and B for examples of a General Disaster Plan and Site Plan for the hypothetical family discussed previously.



## 4. Emergency Drinking Water

*“Water, water, everywhere, Nor any drop to drink.”*

*from The Rime of the Ancient Mariner*

*by Samuel Taylor Coleridge*

**STRAIGHT THINKING:** *The most important aspect of emergency water management is obtaining a good and trusted water source, and water from the most pristine-looking stream may not necessarily be a trustworthy source (Does that stream run past a farm that sprays pesticides? Is there a carcass of a dead animal upstream for your location? Is the upstream water contaminated by animal feces?). These concerns should cause any prepper to give serious consideration to the use of rain water, or water drawn from springs or underground wells.*

*While all water sources may not be trustworthy, many water sources are very treatable.*

During a disaster the water supply is often one of the first casualties. Consequently, making preparations to have adequate and safe drinking water must be a top priority. Because a person can only live a very few days without water, the availability of good drinking water should be of paramount importance to anyone who is serious about surviving a major disaster.[7]

In modern times it is not uncommon to hear of cities issuing “boil water notices” to entire areas when certain parts of the utility infrastructure experience an outage. Notice that they never issue a warning to “boil the water or use your water filter”. The reason is because **all water filters are not equal**. In fact, they are FAR from equal.

## 4. Emergency Drinking Water

The typical store-bought water filter is designed with the assumption that it will be filtering public tap water and only removing certain trace minerals that affect the taste of the water. In the event of a disaster those 'lightweight' water filters will be **totally inadequate** to protect you from the virtual flood of bacteria, viruses and harmful chemicals that may very well find their way into the water supply.

There are, of course, some excellent, high-quality water filters that are available for purchase (and many at reasonable cost). This chapter will not only provide you with the information needed to make informed water filter choices but also with critical information on effectively managing your water supply during a crisis.

### 4.1. Water Contaminants

Water purification is concerned with removing 3 types of contamination:

- *Particulate Contaminants* - any matter suspended in a water supply (debris, rust, mud, silt, etc)
- *Biological Contamination* - harmful microorganisms
- *Chemical Contamination* - harmful chemicals

#### 4.1.1. Particulate Contaminants

Particles and debris can be removed from water by even the least sophisticated water filters. See section 4.2.6 for a discussion of *pre-filtering* water to remove many such contaminants to preserve the useful life of your water filters and filter elements.

#### 4.1.2. Biological Contaminants

Biological contaminants present a grave threat to everyone in a disaster scenario. Introduced to the human body in drinking water, microbes can cause illness that can incapacitate a person for weeks (or even result in dehydration and possible death). Biological contaminants include:

- *Protozoa* - single-celled organisms that can cause serious disease in humans. The protozoa of most common concern in drinking water supplies are *Giardia Lamblia* & *Cryptosporidium* (also known as '*giardia*' and '*crypto*', respectively).



## 4.1. Water Contaminants

- *Bacteria* - a special class of single-celled organisms that are smaller than protozoa and which can also cause serious disease in humans.
- *Bacteria Spores* - the 'seeds of bacteria' that are smaller and more difficult to filter or kill than the bacteria themselves - and which eventually develop into bacteria.
- *Cysts* - microscopic protective *cocoons* that contain parasitic microorganisms.
- *Viruses* - extremely small particles of disease-causing organic matter (viruses are orders of magnitude smaller than bacteria).

The risks posed by these biological contaminants is addressed through several means:

- Mechanically blocking them through filtering.
- Killing them with chemical agents such as bleach or iodine.
- Killing them with sunlight.
- Killing them with ultraviolet light.
- Killing them by boiling the water.
- Removing and killing them through distillation.

The full range of potential biological contaminants cannot be addressed by any single preventive measure. For example, bacteria spores may survive boiling, however they can be removed by a filter with a pore size of .45 microns or smaller. Any truly safe and effective water treatment system should probably incorporate multiple approaches (e.g. filtering and boiling).

This chapter describes several methods that can be applied to greatly reduce the risks posed by contaminated water.

### 4.1.3. Chemical Contaminants

Harmful chemicals in a water supply can present every bit as serious a health hazard as biological contaminants (and can be more difficult to filter). In general these chemical contaminants consist of:

- *Heavy Metals* - heavy metals such as mercury and lead typically enter the water supply as a result of vehicle emissions combining with ground water or chemical runoff from mining operations.

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- *Organic chemicals such as pesticides* - water runoff from agricultural sites may result in pesticides and other *volatile organic compounds (VOCs)* being introduced into a water supply.
- *Pharmaceutical chemicals* - antibiotics and other pharmaceutical substances may find their way into a drinking water supply when they are disposed of improperly by households or businesses.
- *Salt* - salt may be introduced into a water supply primarily as a result of mixing with seawater.

Heavy metals, pharmaceuticals and salt can be removed from water through distillation and reverse osmosis filtering (see section 4.8). Organic chemicals can largely be scrubbed from water by passing the water through a filtration layer of activated charcoal.

## 4.2. Water Treatment Concepts

### 4.2.1. Filter Elements

Water filter elements are the removable/replaceable parts of a water filter (the '*cartridges*') that are responsible for actually processing the water. In a disaster situation you should probably replace the filter elements when you notice any type of odor from the water, or when the rate at which the filter produces drinkable water is noticeably reduced. You might also consider replacing an element when it is 1 year beyond its labeled life expectancy (or maybe a little more). Even then, during a long-term disaster, you should save old filter elements in case you find that it becomes necessary to cycle through them again.

Some water filters allow multiple elements to be installed, and you only need to install more elements if you need to produce drinkable water at a faster rate. Some filters may only remove bacteria and cysts, while others may block viruses and harmful chemicals as well. For some types of filters the elements are designed to be cleaned and re-used multiple times, so be sure to read the instructions that accompany your own water filter or the filter elements.

### 4.2.2. Filter 'Pore Size'

All water filters are rated in terms of their '*pore size*'. A filter's documentation may refer to both *nominal* and *absolute* pore size - **it is the absolute pore size that is important.**[19] The absolute pore size, most often expressed in microns, is the size of a microor-

ganism which has been shown to be blocked by the filter under strict, industry-standard test conditions.[19]

The *Giardia* and *Cryptosporidium* protozoa are 4 microns and larger in size. Harmful bacteria range between 1.5 and 3 microns in size, and viruses range between 0.004 and 0.03 microns in size.[17] Therefore, any filter with an absolute pore size rating of 1 micron or smaller should be considered to be a reasonable filter to use in a disaster scenario.

**NOTE:** *Water filter elements may feature both ceramic and activated charcoal filtering stages. While this is attractive from a functional perspective it is important to note that the life expectancy of activated charcoal sections tends to be significantly less than the life expectancy for the other filtering materials. As a result, these (more costly) filter elements must be changed more frequently.*

*It may be wise to consider having separate activated charcoal filtering equipment, rather than to select an all-in-one solution. Or, if you are certain that your emergency water supply will not contain VOCs, you might not include an activated charcoal filtering stage in your water processing at all (keep in mind that the most common source of VOCs in water supplies is water runoff from agricultural areas).*

### 4.2.3. Bridging

A water filter element with a particular pore size can actually block the passage of contaminants that are smaller than the pore through a process known as *bridging*. Bridging refers to the case in which the bacteria and other contaminants that are stopped on the surface of the filter element begin to overlap in such a way as to block the passage of smaller objects (much like a log jam in a stream might block the passage of objects which are smaller than the logs themselves). It is this bridging phenomena that causes the rate of water flow through a filter to become reduced over time, often requiring reusable elements to be scrubbed with a mild abrasive, or non-reusable elements to be replaced.

**NOTE:** *Note that even filters with small pore sizes will still pass viruses (with the notable exception of reverse osmosis filters, which have molecular-sized pores). Viruses are not common in most water sources, so they are a lesser concern. However, this does highlight the need to chemically purify water after it has been filtered.*

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##### **4.2.4. Filtering vs. Purifying Water**

Filtering water simply involves passing the water through some material that blocks the passage of some (but not all) contaminants.

Purifying water goes beyond filtering and is a very specific industry term that indicates that the water produced is safe to drink without additional processing. For example, some filters with very small absolute pore sizes are able to be labeled as water purifiers. In the US and other developed nations a water treatment device cannot legally identify itself as a 'purifier' without passing rigorous industry-standard tests.

##### **4.2.5. Gravity-Fed Water Filters**

Some type of force is required to cause water to flow through a water filter. This force may be from an electric, motor-driven or human-powered pump, or it may be simply the force of gravity. Even municipal utility services install water towers to use the force of gravity to provide water pressure. Gravity-fed water filters are filters that are specifically designed to exclusively employ the force of gravity to force water through the filter elements. Because they require no external energy sources, anyone preparing to survive a major disaster should acquire a high quality gravity-fed water filtration system.

##### **4.2.6. Pre-filtering Water**

In order to extend the life expectancy of water filter elements it is often a good idea to pre-filter water before processing it through a filter. Such pre-filtering may be as simple as straining the water through a clean t-shirt or other material.

### **4.3. Water Filtering Basics**

The process of filtering water should remove unwanted particulate matter as well as scrub the water of many unwanted chemical contaminants, and some microorganisms. Most often filtering alone is not sufficient to deal with all harmful microorganisms (particularly viruses), hence an additional purification step is highly desirable.

Filters with an absolute pore size of 1 micron or smaller can filter out harmful protozoa such as giardia and crypto. Filters with an absolute pore size of .1 micron or smaller can filter out bacteria, and filters with an absolute pore size of .01 micron or smaller can filter out viruses.[18] (Even if a filter has a pore size that is larger than a particular microbe it may