



# THE ART OF EATING THROUGH THE ZOMBIE APOCALYPSE

A COOKBOOK & CULINARY SURVIVAL GUIDE

written by LAUREN WILSON

illustrated by KRISTIAN BAUTHUS

## PRAISE FOR THE ART OF EATING THROUGH THE ZOMBIE APOCALYPSE

A beautiful, cock-eyed culinary concoction—truly *sui generis* in its conceit—and wickedly delicious in the scope of its recipes. Who knew? Flesh-eating zombies and haute cuisine-eating foodies collide in this trippy, rustic cookbook chock full of inside dish on both the walking dead and the post apocalyptic larder. This one gets FIVE SEVERED HEADS (OF LETTUCE)!

—Jay Bonansinga, *New York Times* bestselling author of *The Walking Dead: Descent, Frozen, and The Sinking of the Eastland*

If you're seeking an indispensable guide to surviving the zombie apocalypse without losing your lunch, look no further than the pages of this clever and spirited cookbook. All of your queries (large and bite-sized) are surely answered within, whether you plan to subsist on foraged edibles, hand-harvested seaweed, or the bounty of a rooftop farm. Get ready to soak up the genuinely useful tips and salivate over the trove of recipes. Impending doom never sounded so appetizing.

—Sarah Huck, author of *Campfire Cookery: Adventuresome Recipes and Other Curiosities for the Great Outdoors*

*The Art of Eating through the Zombie Apocalypse* is the most comprehensive guide to eating—and eating well—during an outbreak of the undead ever to be written. From fine cuisine to edible insects, Ms. Wilson's knowledge is unmatched, and her work shows a deep understanding of the qualities and practices necessary for survival against the undead. In conclusion, I want Lauren Wilson on my zombie survival team! (Or, failing that, someone who has read her book . . .)

—Scott Kenemore, author of *The Zen of Zombie and Zombie, Ohio*

For too long, those writing about zombies have obsessed about the living dead eating human flesh. What about what humans will eat when the undead roam the earth? Lauren Wilson has finally answered all of your culinary questions. An essential read for anyone who wants to not only survive the zombie apocalypse, but thrive!

—Daniel W. Drezner, author of *Theories of International Politics and Zombies*

Much more than just a cookbook, *The Art of Eating through the Zombie Apocalypse* is an essential survival manual for every serious doomsday prepper. Eschewing ubiquitous chapters on hand-to-hand combat and gun safety, Lauren Wilson's apocalyptic guidebook instead focuses on what would really matter for survival—for who wants to exist in a world populated with zombies if there's nothing good to eat (besides humans, of course)?

—Kyle William Bishop, author of *American Zombie Gothic*

Who knew that my lifelong love of the undead would yield access to some damn good recipes? Thanks to this book, should the zombie apocalypse ever happen at least I'll be well nourished and happy.

—Steven C. Schlozman, MD, assistant professor, Harvard Medical School,  
author of *The Zombie Autopsies*

There are many reasons people find it stimulating or amusing to contemplate the impending zombie apocalypse: they like to imagine themselves being a good deal more heroic and/or violent than their current situations allow, they desire the end of current social/economic arrangements, or they hope for a better world following the demise of this one. A book such as this revels in a related scenario—to picture oneself living in comfort and even luxury amidst all the destruction and chaos . . . If such a reverie appeals to you, you'll thoroughly enjoy this book.

—Dr. Kim Paffenroth, author of *Gospel of the Living Dead*

Here's a thorough exposition of all the skills and practices anyone who wants to live through the collapse of civilization needs to know. The author covers all aspects of survival technology in depth and with clarity, and there's even a smattering of edible wild plants.

—Wildman Steve Brill, author of *Identifying and Harvesting Wild and Medicinal Plants in Wild (and Not So Wild) Places*

A disturbingly delicious and mouth-watering collection of truly apocalyptic recipes. Who thought the end of the world could be this yummy? Go on . . . take a bite!

—Jonathan Maberry, New York Times bestselling author  
of *Rot & Ruin* and *Fall of the Night*

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LAUREN WILSON

*Illustrations by* KRISTIAN BAUTHUS



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DALLAS, TEXAS

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BenBella Books, Inc.  
10300 N. Central Expressway  
Suite #530  
Dallas, TX 75231  
[www.smartpopbooks.com](http://www.smartpopbooks.com)  
[www.benbellabooks.com](http://www.benbellabooks.com)  
Send feedback to [feedback@benbellabooks.com](mailto:feedback@benbellabooks.com)

Printed in the United States of America  
10 9 8 7 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data  
Wilson, Lauren.

The art of eating through the zombie apocalypse : a cookbook and culinary survival guide / Lauren Wilson ; illustrations by Kristian Bauthus.  
pages cm

Includes bibliographical references and index.

ISBN 978-1-940363-36-3 (paperback)—ISBN 978-1-940363-37-0  
(electronic) 1. Zombies—Humor. 2. Cooking—Humor. 3. Survival—  
Humor. I. Title.

PN6231.Z65W55 2014  
818'.602—dc23

2014014307

Editing by Leah Wilson  
Copyediting by Brittany Dowdle, Word Cat  
Editorial Services  
Proofreading by Kimberly Broderick and Amy Zarkos  
Indexing by WordCo

Cover illustration by Kristian Bauthus  
Cover design by Kit Sweeney  
Text design by Faceout Studio  
Text composition by Kit Sweeney  
Printed by Versa Press

Distributed by Perseus Distribution  
[www.perseusdistribution.com](http://www.perseusdistribution.com)

To place orders through Perseus Distribution:  
Tel: (800) 343-4499  
Fax: (800) 351-5073  
E-mail: [orderentry@perseusbooks.com](mailto:orderentry@perseusbooks.com)

**Significant discounts for bulk sales are available.  
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# WELCOME TO THE ZOMBIE APOCALYPSE

The ‘what-ifs’ and ‘should-haves’ will eat your brain.

—John O’Callaghan

Zombies, ghouls, biters, walkers, geeks, lamebrains, skels, rotters, zekes, or, as our Canadian friends like to call them, zeds. Their unrelenting shamble into pop culture ubiquity, from television to video games to fan conventions to literature, may have lulled you into a false sense of security, but don’t be fooled! The undead do pose a serious (and downright terrifying) threat to human existence. While it may be all fun and brrraaaaaiiiinnns for the general public, when the zombie apocalypse hits, our very way of life will come to an end.

If you are reading this, it means that you are one of the few people on this planet being proactive about zombie-apocalypse

preparedness. Good for you. Or, if you have acquired or found this book during the apocalypse, congratulations on still being alive.

I don’t think I need to impress upon you the fact that the zombie apocalypse (often referred to in survivalist circles as the zpac, or simply ZA) is no joke. Aside from the complete annihilation of societal conventions as we know them, we are talking about the end of chorizo, chocolate bars, and tacos here. Once civilization collapses, you will probably never eat another glazed donut. Or a really good piece of French cheese, or even a banana, for that matter.

There will be no more late-night convenience store runs for a pint of Ben



& Jerry's and a bag of Spicy Doritos, or fanciful meals fully embracing the locavore movement with sautéed ramps nestled atop your hormone- and antibiotic-free roast chicken breast. There will be no more GrubHub pizza delivery and no more freshly baked cookies coming out of the oven. There will be no more pickling in your tiny Brooklyn apartment or watching *Adult Swim* while stuffing your face with a box of Wheat Thins because that's all you found in the pantry.

In fact, if you ever see your local convenience store clerk again, he will probably want to rip your entrails out. The friendly farmer you buy heirloom tomatoes from? She'll go straight for the jugular. And if you happen to run across your pizza delivery guy in the street, he's likely to be shambling along with his pizza bags tangled and knotted around his partially severed limbs, bike dragging behind him as he moans after you with what you imagine sounds like vague recognition (better hope he doesn't remember where you live).

Face it, life as you know it will cease to be. And no matter what kind of eater you are—whether a “foodie” who tweets from the hottest restaurant openings, a pimply-faced video game addict subsisting on Yoo-hoo and Slim Jims in your parents’ basement, or even a Regular Joe who doesn’t think much about what you eat because to you, it’s just food—the fact is we’ll all still have to eat.

To be sure, your main objective in surviving the zpoc will be to not become

a zombie. The zombie diet is not all that appetizing (and frankly pretty monotonous) anyway, composed of widely varying quantities and qualities of human flesh and organs. It’s true, the initial glut of zombie food would be (by zombie standards) pretty tasty: the soft, underused flesh of the inactive and obese, with plenty of fat surrounding the organs for extra flavor and a better mouthfeel. But as that initial fiesta runs dry, all that the undead will be left with are the tough, athletic types who were fortunate enough to make it through the initial outbreak. I, for one, will pass.

But I digress. It would be naive to think that the zpoc will be a cakewalk. The bulk of one’s attention, energy, and day-to-day activity will be consumed by a struggle for survival—that is, staying one step ahead of the undead hordes roaming the wasteland (a term we use affectionately for the decaying remains of human civilization) while meeting basic requirements for water, nourishment, and shelter. That alone will be monstrously hard. How to get your grubby survivor paws on food and water, how to preserve it, how to avoid wasting it—these questions will take up a significant portion of your time and efforts. It is my hope that *The Art of Eating through the Zombie Apocalypse* will help you surmount these challenges, tastefully.

The U.S. Army learned long ago, when they began developing shelf-stable complete meals for soldiers that could be heated without access to fire (also known as MREs; see *Army Rations: Having Fun with MREs*, page 283), that there is no



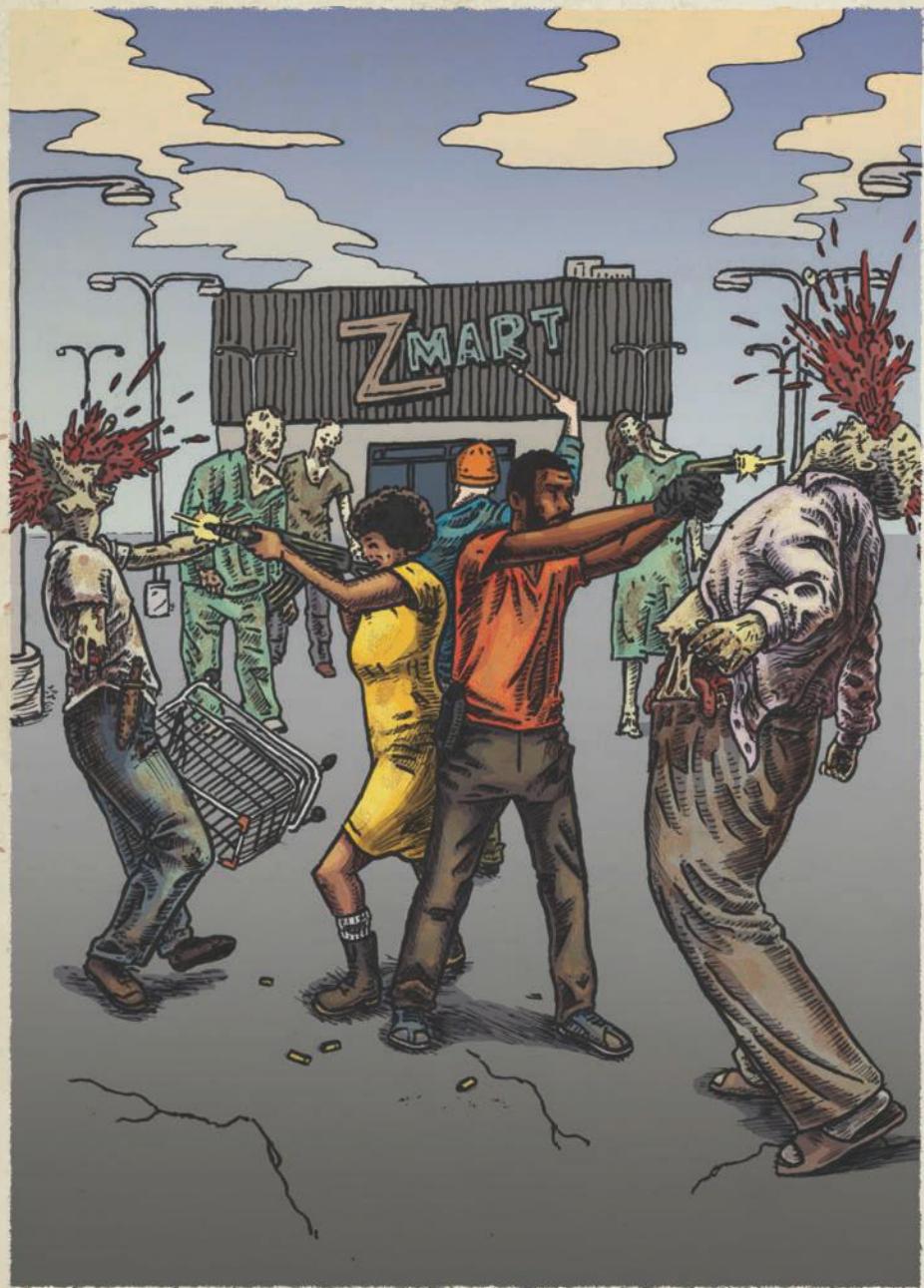
underestimating the morale-boosting power of a hot, well-balanced meal. A good meal can truly bring you back from the brink of succumbing to the horde. After all, it was Napoleon who said, “An army marches on its stomach.” And at the end of the day, aren’t we all just foot soldiers in the war against the undead? The simple pleasure of warm and enjoyable food, given even a little consideration and TLC during preparation, can help remind us that not all pleasures in life have been devoured by the biters.

Know that the road ahead is not filled with the most delicious meals you have ever eaten. You will be forced to hunt, prepare, and eat things you might never have imagined you ever would. But I promise, it will not be all squirrel and Spam, and with a little old-fashioned ingenuity and creativity, you *can* find pleasure in eating during the zombie apocalypse.

Just because the undead’s taste buds are atrophying, doesn’t mean yours need to.

Bon Appétit!





# THE LAY OF THE (WASTE)LAND: ABOUT THIS BOOK

When the undead rise, societal conventions will crumble faster than a good shortbread. The living will be running around like chickens with their heads cut off, and no matter how much you plan and prepare, nothing—*nothing*—will go according to plan. Much like crafting the perfect soufflé, surviving the zombie apocalypse will be a tricky business.

We all know the well-worn zombie narrative: outbreak, infection of pandemic proportions, and survival horror. Sometimes this is followed by a happy ending for humanity. More often, it offers a hopeless snapshot of our fate where the undead wipe us out completely. This book will by no means guarantee long- or even short-term survival, but it will provide you with a solid overview of the skills and supplies needed to *attempt* to survive a zombie apocalypse from a culinary perspective and how you can use

your very own creativity and ingenuity to enjoy a few good meals along the way.

*The Art of Eating through the Zombie Apocalypse* is laid out in a loose chronology of survival situations that you may find yourself in during the zpoc. It is divided into two major parts, pulled from the foundations of prepper wisdom and debate—that is, the question of whether one is best off battening down the hatches and staying put or getting the hell out of Dodge. In prepper parlance these are known as “bugging in” and “bugging out.” Building on these foundations, you will find a sampling of doomsday scenarios generally accepted among zombie nerds and preppers alike.

Let us set the scene. Paint the big picture (a little less Thomas Cole pastoral and a little more Edvard Munch horror) as to how the food landscape will look once the skels take

over. The initial outbreak will be characterized by the chaos and pandemonium described in the introduction: it will be an all-out smorgasbord for the walking dead and an all-out shit show for the rest of us. Most of the living will be utterly gripped by panic and terror, running around trying to beg, borrow, or steal bottled water, batteries, and canned foods while outrunning the undead.

In madness like this, one must be prepared for anything to happen, and a certain “mise en place” will be essential. The *Savory Survival Tin* (page 2) and *Flee with Flavor Bug-Out Bag* (page 5) are base-level tools that can afford you a leg up no matter where you find yourself.

Preparedness isn’t just about tools, however. You gotta have skills, too. Sadly, if an infectious and widespread zombie outbreak were to happen now, today, right this second, most of us would be served up on a Pu Pu platter of living hors d’oeuvres for the undead. Fresh tartare just waiting to be ripped apart by the ravenous appetites of the newly reanimated. Even though emergency preparedness has been thrust into the public spotlight by severe weather phenomena, global food security issues, nuclear threats, terrorism, and a general global vibe of instability and uncertainty—the reality is that the majority of us have few to no survival skills to speak of. *Essential Skills for the Hungry Survivor* (page 11) will provide those most base-level skills to keep you alive and kicking zombies in the head.

For those of us lucky enough to make it through the craziness of the initial outbreak,

a smattering will have chosen to hole ourselves up at home. The veteran survivalists and preppers will have planned for the bugging-in option, and will likely have a defensible dwelling and ample supplies on hand. Many of us, however, will probably freak out when the streets are teeming with living dead, blood, and random body parts and will simply decide to get into the fetal position and sob quietly under the bed for a little while.

In either case, the *Bugging In, or Nouveau Home Cuisine* section (page 53) will provide a healthy variety of recipes and clever tips for making the most of perishables once the power goes out, eating out of your cupboard, and—once the situation stabilizes—trying your hand at indoor apocalyptic agriculture, putting up foods for later use, and hunting/gathering in your immediate area. It also offers a good bugging-in game plan for prepping ahead of time, for the more organized and forward-thinking among us.

The more adventurous among us may choose to take their chances on the road or out in the wilderness. Veteran survivalists will have a tried and (literally) tested bug-out evacuation plan, and possibly even a stocked and fortified safe house waiting for them in a secret and secluded area.

But they won’t be alone—many average survivors out there will probably flip out, pack their families and a random assortment of gear into their cars, and (if they have learned absolutely zilch from zombie pop culture) head for the freeway or (if they learned a little something from the



iconic image of Atlanta from the opening credits of *The Walking Dead*) stay on less-traveled roads. Still others will grab a few supplies (or their bug-out bag) and try to flee on foot.

Their travels will take them through both the dregs of society and the wilderness at large, and possibly even to government survivor camps or large-scale survivor communities. Scavenging, hunting, and making the most of army rations will all be on the menu. If the zombie plague is a long and drawn-out affair, then those fortunate (?) survivors who have settled into a level of normalcy/equilibrium with the zeds will yearn to rebuild some semblance of long-term security and a

sustainable food system, which is why one must carefully choose a *Long-Haul Bug-Out Location* ([page 306](#)). All of these issues, related survival skills, and the tasty recipes to go along with them can be found in the *Bugging Out, or Eating on the Run* section ([page 235](#)).

While this book is laid out in a loose chronology, rest assured that your journey could actually play out in any number of ways. Regardless of whether you bug in or out, or bug in then bug out, or bug out then bug in—there are a myriad of survival situations you might find yourself in. Tuck this book into your bug-out bag, keep your chin up, and good luck!



# **SHOULD I STAY OR SHOULD I GO?**

Should I stay or should I go? While The Clash laid out the pros and cons pretty damned clearly, it remains a topic of considerable and fierce debate among zpoc preppers: Should I bug in or bug out? And the real answer to this most basic of zpoc quandaries is, as with all good questions in life, it depends.

The choice to hunker down and fortify your home (bugging in) or flee to a more remote location or even a secondary dwelling or safe house (bugging out), is a personal one and should be based on a variety of considerations: the physical location of your home, the local population density (and thus zed density), your home's accessibility by major thoroughfare (for both alive or undead traffic), the type of domicile it is

(a high-rise apartment has better potential for fortification than, say, a bungalow), the area's climate and natural resources (water, edible vegetation, wild game, etc.), proximity to scavenge-worthy locations, and so on.

In the great bug-in/bug-out debate, many preppers advocate for the GOOD (Get Out Of Dodge) approach through acquiring a remote and secluded secondary home, which can be stocked and readied for the zpoc. A nice little cabin north of the ice line with plenty of food and fuel where one can wait out the inevitable rotting away of these reanimated menaces. Still others argue that even just fleeing with an adequate bug-out bag and a solid base of survival skills to take your chances on the

run is a smarter decision than trying to hole up at home.

However, bugging in might very well be a wise choice for weathering an undead tsunami. Logistically it is far easier to bug in than to have to acquire and set up a secondary safe-house location. You can stock and fortify your own home, without having to worry about physically getting yourself to your safe house in the event of an outbreak.

The truth is, they are not mutually exclusive. Even the strongest of strongholds (anyone remember Woodbury or Monroeville Mall?) can be overtaken by enemies living or undead, forcing survivors out on the run. Or maybe after going AWOL during the initial outbreak you'll find

yourself a nice little secluded mountain fortress to hunker down in until this whole zpoc thing has blown over.

If we've learned anything from the creative minds of Romero, Kirkman, Whitehead, and Brooks, it's that when the dead rise very little will go according to plan. Whether the outbreak is the result of a prion disease, a virus, or a parasite; whether caused by a bioweapon terrorist attack, a naturally occurring viral mutation, or an accidental research leak—the one thing we can be sure of is complete pandemonium and social chaos.

And so, the real answer to the "Should I Stay or Should I Go" debate is simple: You must be ready for both.





# MISE EN PLACE: the EPICUREAN'S APOCALYPTIC TOOLKIT

When it comes to entry-level preparedness, there are two items that any survivalist worth their salt should have: the survival tin and the bug-out bag. The survival tin is a small and highly portable kit that contains a variety of emergency and potentially life-saving tools aimed at securing food and producing fire. The bug-out bag—also known as the BOB, grab bag, battle box, and Get Out Of Dodge (GOOD) bag—is an enhanced version of the survival tin, stocked with tools, equipment, and sustenance for short-term survival.

For those who thoroughly enjoy the act of eating and cringe at the thought of a flavorless fight for survival against the undead, the typical survival tin and bug-out bag offer little more than bland victuals. But with a few simple additions and tweaks, these two pillars of preparedness can go from bland to *bam!* While desperately clinging to a small scrap of hope that the human race might survive the zpoc, there is no overestimating the morale-boosting power of a good meal.

# The Savory Survival Tin

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The survival tin is typically a small, sturdy, and ideally waterproof container stocked (and usually stuffed) with supplies that will help attend to the most basic of human needs: that is, fire, food, and water. Regardless of where you are when the SHTF (a common abbreviation used among preppers to affectionately refer to poop and fans colliding), a simple survival tin, tucked into a pocket or purse and *carried on your person at all times*, will offer you the means to stay warm, cobble together a meal, and ensure you have safe drinking water in the event of an unexpected undead survival emergency.

Often, Altoids tins are used to house these basic survival supplies, due mostly to their low cost, pocketability, and availability at most convenience and grocery stores. There are, however, a wide variety of housings available in the survival supply market, of varying sizes, levels of durability, and usability.

## SURVIVAL TIN STANDARD FARE

- ★ Bandages
- ★ Button compass
- ★ Duct tape
- ★ Emergency tinder (cotton ball, Tinder-Quik™ tabs, etc.)
- ★ Flint and steel
- ★ Medicines (antibiotics, pain relievers, etc.)

- ★ Mini LED flashlight
- ★ Water purification tablets
- ★ Weatherproof matches

## SAVORY ADDITIONS TO THE STANDARD FARE

Here are a few additions for a more comestible, zpoc-friendly survival tin. Though it might seem impossible, all these items can be tucked (with a little work on optimizing space) into a standard Altoids tin.

### SURVIVAL CAN OPENER

When the initial outbreak has passed, humanity has fallen, and all perishable foods have long since disappeared, canned food will be one of those relics of the world that once was—a hard to open, nonperishable relic. That's why a survival can opener is a must-have—it is super small (and sharp!) and tuck easily into your tin.

### RANGER BANDS

Ranger bands are black rubber bands made from bicycle tire inner tube. They are extremely strong and versatile, most often used to bundle things together or provide additional grip for knives and other handles. But the hands-down best thing about ranger bands is that they are very flammable and an excellent backup for when dry tinder is not available. To avoid taking up space in your tin, slip them



## SAVORY SURVIVAL TIN



around the outside. (Bonus! They can help keep your jam-packed tin closed tight.)

## FOOD-FRIENDLY MULTI-TOOL

The durability and usefulness of even the priciest multi-tool will of course have its limits, but it's an essential item that will come in handy in any number of ways. The bottle opener on many models will be essential for scavenged beverages. A pair of tweezers will be most useful for deboning fish, or plucking feathers when hunting, or poking vent holes into tinfoil for steaming food. Other useful features to look for: scissors, gut hook (for gutting fish and small game), and screwdriver.

## SNARE WIRE

During the undead uprising, you will, at some point, have to hunt for meat. And unless you like the idea of taking a page out of Cormac McCarthy's *The Road* and eating your fellow man, snare wire will come in handy for trapping a variety of animals. It's also an excellent tool for general day-to-day survival—hanging pots over a fire, for example. Fifty feet of 24-gauge brass wire should do the trick.

## FISHING KIT

You may not immediately find yourself near some good fishin' when the zpoc hits,

but eventually a small rudimentary fishing kit may prove useful indeed. In a mini 1¼-inch resealable bag, you can comfortably store 3–4 small hooks, 3 swivels, and 1 lure. Also include 50 feet of 20-pound (or heavier) tested fishing line. (Wondering about the pole? Grab a stick and learn how to attach it in the *Fishing* skills section (page 32).

## TIN FOIL

Tin foil can be used in many a cooking application and is most useful in making pouches for roasting or steaming in fire embers (more on that in *Apocalyptic Cooking Methods* on page 41). A 12-by-12-inch sheet can be neatly folded down into a square perfectly sized for your tin. More should be stashed in your bug-out bag.

## HERBS & SPICES MINI KIT

Who wants basic survival to be bland? By including a few small packs of herbs and spices, you can survive in a world teeming with the undead without forsaking flavor. Salt, pepper, cayenne, thyme, smoked paprika, curry powder, or any of your favorite flavor enhancers can be packed into labeled mini ¼-inch resealable bags. You can also include a packet of sprouting seeds (see *Sprouting for Food* page 143) for an easy way to get a quick nutrient boost.



# The Flee with Flavor Bug-Out Bag

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A standard-issue bug-out bag (BOB) is a pack that contains supplies for 72 hours of survival in emergency situations—water, shelter, high-calorie foods, a medical kit, and provisions for fire making. Because an undead epidemic will mean the end of life as we know it, the BOB outlined here is equipped with longer-term wasteland survival in mind. Put together a few and tuck into accessible spots in your home, car, and workplace to ensure you will always have a bag at the ready when the zekes strike.

In selecting your BOB, go for a high-quality bag with an internal frame; external frames are better for heavy loads, but they also offer grabby undead hands more opportunity to latch on to you. Look for features like weatherproofing on zippers and rain covers, well-thought-out storage compartments and pockets, and attachment loops for tools and weapons. And pack light! Your bag should be no more than  $\frac{1}{3}$  of your body weight—not only because you will be on the move for long periods of time, but also so you have room to store any tasty treasures you pick up along the way.

## BUG-OUT BAG BASICS

### FOOD & WATER:

- ★ Can opener
- ★ Fishing kit

- ★ Flexible plastic cutting board
- ★ Portable water-treatment system
- ★ Resealable food bags
- ★ Snare wire
- ★ Tin foil

### FIRE:

- ★ Fire axe
- ★ Fire gloves
- ★ Flint and steel
- ★ Tinder
- ★ Weatherproof matches

### SHELTER:

- ★ Emergency “space” blanket
- ★ Lightweight tent
- ★ Plastic tarp

### GETTING AROUND:

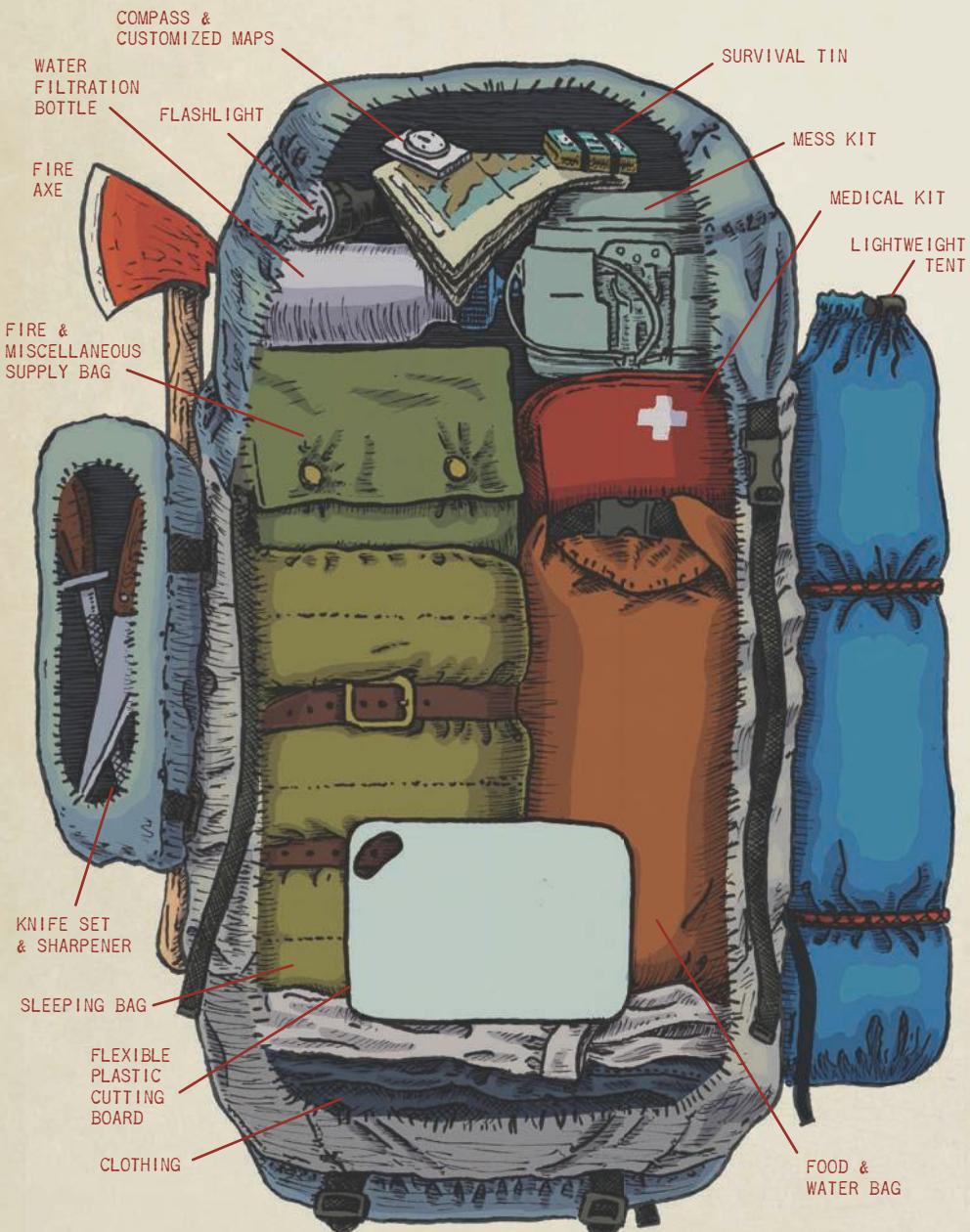
- ★ Binoculars
- ★ Compass
- ★ Flashlight

### MISCELLANEOUS:

- ★ Clothing
- ★ Duct tape
- ★ Hand-cranked emergency radio
- ★ Medical kit
- ★ Paracord with guide for survival knots
- ★ Rubbing alcohol
- ★ Toiletries



## FLEE WITH FLAVOR BUG-OUT BAG



## FLAVORFUL ADDITIONS TO A BASIC BOB

In addition to the bug-out basics, consider these food-friendly additions to your pack:

### CUSTOMIZED MAPS

A good set of maps is essential for the Bug-Out Bag. Pick up maps covering your home city/town, plus maps for a 20–30 mile radius around you (you will need a decent catchment area for scavenging and supply runs) and additional maps for any potential *Long-Haul Bug-Out Location* ([page 306](#)). Enhance these maps by clearly labeling useful destinations for hunting and foraging (apiaries, community gardens, parks, and other green spaces), scavenging (residential neighborhoods, hotels, hospitals, schools, prisons, food-producing factories, etc.), and other places that won't be everyone's first stop when stockpiling or scavenging.

### FORAGING FIELD GUIDE

Foraging is a crucial skill for any zpoc survivor, so you will need to familiarize yourself with the most abundant and ubiquitous edible and medicinal plants in your area. Pick up a field identification guide particular to your geography. (See also *Foraging at the End of the World*, [page 102](#), for an introductory North American guide.)

### KNIFE SET

Knives will be among your most-used tools on the run—for everything from building

shelter, crafting tools, butchering game, and, of course, dispatching walkers. It would be wise, therefore, to have (at the very least) a set of four knives in your bag: three hunting knives and one survival knife. One hunting knife should be used expressly for zombie killing and self-defense when in low-density skel situations, and it should be stored securely and separately from the others to avoid cross-contamination. Another hunting knife should be used only for butchering game and cutting meat, and the third for all other non-meat-related food purposes, while the survival knife can be your all-purpose multitasker.

### BLADE SHARPENER

Knives will not be of all that much use to you when their edges inevitably wear down, so a blade sharpening solution is another must-have for the bug-out bag. The most bang for your buck will be a two-sided sharpening stone (with fine and medium grit) supplemented with an angle guide (to help keep consistently angled strokes while sharpening) or alternatively a crock-stick sharpening system (pictured on [page 37](#)).

### MESS KIT

A mess kit is a small, compact, and light-weight set of cooking implements for one, typically including a small pot, frying pan, bowl, and cup. The lightest and most durable mess kits are made from titanium; however, they are also the most expensive.



Stainless steel is middle of the road for price, weight, and durability.

**TIP:** *Fill the empty space in your mess kit with items from your food kit like rice or pasta, your survival seasoning kit, bouillon cubes, etc.*

## EMERGENCY STOVE

While there are other small compact ways of cooking during the zpoc (see *Apocalyptic Cooking Methods* on page 41), an emergency stove is essential, as it will provide a reliable backup when needed materials aren't available or building a fire isn't possible. Invest in a sturdy but light model that folds down to a compact size, can be easily refueled while burning, and allows for enough ventilation to feed the fire the oxygen it needs.

**TIP:** *Have an extra pack or two of trioxane or other solid fuel tabs for times when fuel and kindling are scarce.*

## THERMOMETER

A nondigital food thermometer is a practical addition to your bag—it can be used to check the doneness of meat or in other post-apocalyptic cooking endeavors like cheesemaking!

## LOCKPICK KIT

A must-have for *Living Off the (Waste)Land* (page 237) when you will likely need to

## SURVIVALIST'S SEASONING KIT SUGGESTIONS

Allspice  
Bouillon cubes  
Cayenne  
Cinnamon  
Cumin  
Curry powder  
Fennel and mustard seed  
Garlic powder  
Rosemary  
Sage  
Salt  
Smoked paprika  
Star anise  
Sugar  
Thyme  
Vanilla beans  
Wasabi powder  
Whole peppercorns



force your way into abandoned houses, schools, restaurants, grocery stores, hospitals, and other places that might be harboring food (see *Scavenging* on page 21).

## SURVIVALIST'S SEASONING KIT

Be sure to assemble an enhanced edition of your survival tin's spice kit—include a wide variety of dried whole spices and seasonings in small resealable baggies. See *Survivalist's Seasoning Kit Suggestions* above for suggestions, but tailor your choices to suit personal tastes.



## NONPERISHABLE FOODSTUFFS

Injury, weather, scarcity, and, of course, being trapped in a particular place by a flesh-hungry undead mob could easily prevent you from hunting, gathering, or scavenging. Therefore, it would be prudent to have a few lightweight nonperishables on board just in case: resealable bags of rice, small pasta, and all-purpose flour can be tucked into nooks and crannies (like in your mess kit). Additional nonperishables like high-calorie emergency food bars, tea bags, instant cocoa pouches, oatmeal pouches, and the highly durable Mexican sugar piloncillo are smart additions as well.

## MINI SEED VAULT

With an eye toward long-term survival, put together a mini survivor seed vault: a variety of seeds that can be used to grow food. Purchase nonhybrid (also known as open-pollinated or heritage) seeds, which

will allow you to harvest seeds generation after generation (see *Seeds!*, page 139). Procure the seeds of fruit and vegetable varieties that are typically grown in your area and throw in a few varieties that grow well indoors—cherry tomatoes, spinach, lettuce, radish, eggplant, thyme, sage, and parsley. You can also earmark some of those seeds specifically for sprouting—a reasonably quick and easy food source chock-full of nutrition (see page 143).

## BARTERING ITEMS

When S-Really-HTF and the social conventions we now enjoy are just a distant memory, it would be prudent to have a few “high-value” items on hand that can be used to barter with fellow survivors. Include items like cigarettes, instant coffee packets, 1-ounce mini bottles of liquor, antibiotics, painkillers, toothbrushes, and surgical masks (should the plague be airborne).





# ESSENTIAL SKILLS for the HUNGRY SURVIVOR

**SURVIVAL IS THE ART OF STAYING ALIVE.**

—John Wiseman, *SAS Survival Guide*

It's safe to say that most of us have few, if any, basic survival skills. At least in the way I mean "survival"—that is, in the absence of all the modern conveniences and systems on which we have become so dependent. Do you know how to build a fire? Do you know how to obtain drinkable water? Do you know where to find food in the wild? If an undead plague were to hit tomorrow, most of us would provide a veritable smorgasbord of hors d'oeuvres with which the zeds could kick off their engorgement on the human race. And if by some stroke of luck or cunning you managed to escape immediate danger, chances are you might very well die of dehydration or starvation.

If you are part of that special class of "paranoid" subculture we lovingly call "preppers" or have a clear and useful memory of your time in Boy Scouts or Girl Scouts, you probably will not need the essential skills outlined in the following pages. The rest of us should master these skills *before* the undead uprising and practice until proficient. Whether bugging in or bugging out, these skills are essential to surviving an onslaught of decomposing cannibalistic monsters.

# Water

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Water is used in most of our body's essential functions: temperature regulation, waste elimination, and digestion, among others. Under normal day-to-day circumstances, humans need 2–4 quarts (or liters) to replenish the water lost from regular body function. If it is hot, or you are doing excessive running or brain smashing, this amount naturally increases.

You will very quickly feel the ill effects of dehydration in a survival situation, especially one where you are running for dear life. Dry mouth, dizziness, nausea, muscle cramps, reduced hearing, and failing eyesight are among the urgent signs that you are in need of water. Of course, these signs might also mean you have been infected but in the absence of a bite mark, missing ear, or large hole in your abdomen, chances are you're just dehydrated.

Remember the “Survival Rule of 3s”: Humans can generally live for 3 minutes without air, 3 days without water, and 3 weeks without food. Therefore (assuming the zombie plague isn’t airborne), procuring water should be your first priority when out in the wild or wasteland, followed by purifying any water you find so that it is drinkable, and developing a system for preserving this water for later use.

## PROCURING

If you are grinding it out in the wasteland, scavenging for water will not be an easy task.

Bottled water is one of the supplies that will be frantically and viciously fought over during the initial outbreak. It’s also a resource that looters and raiders will prize highly, meaning you aren’t likely to find much bottled water lying around for the taking and you should protect whatever stores you have.

It is hard to know how long our pipes will continue to deliver a potable water supply—that largely depends on how long it takes for your local power grid to go down and the people running your municipal purification facilities to inevitably flee in sheer terror.

If you are bugging in, assemble a cadre of containers for water storage and fill all that you can from your pipes during the initial outbreak (food-safe 50-gallon buckets/drums are good for this purpose, as are products like the waterBOB® bathtub bladder). These containers can be used for

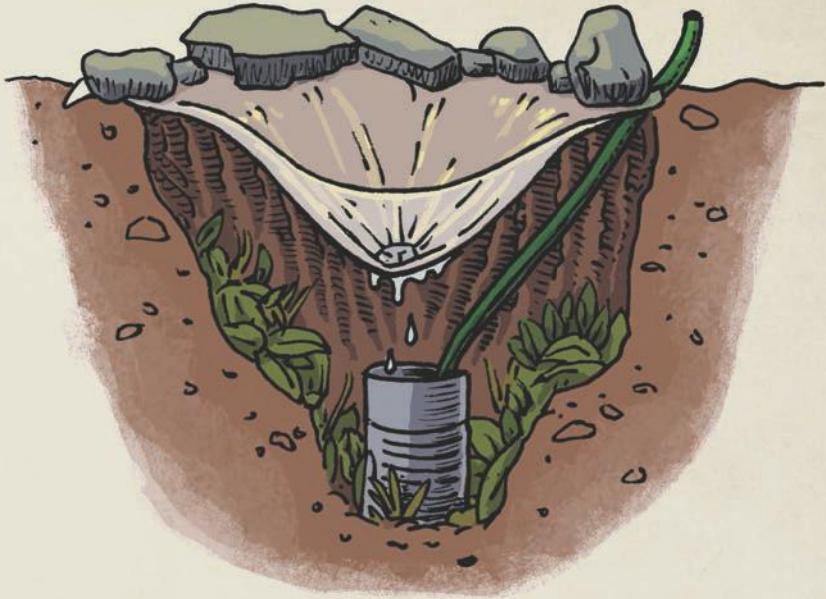


### WHEN SHOULD YOU PASS ON WATER?

Signs that water might be dangerous include:

- // Foul smell
- // No plant life
- // Bubbles, foam, or green slime
- // Milky color
- // Evidence of undead contamination (blown- or hacked-off body parts, full or partial corpse)





rainwater collection later as well (see *A Hydrated Survivor Is a Happy Survivor*, page 206). It would also be prudent to have a stockpile of bottled water in storage, if possible.

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**TIP:** Your hot-water tank (and those of your recently reanimated neighbors!) will also have some potable water stored inside that will be accessible to you in a pinch.

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When bugging out or looking for water in the wilderness, first try any known and close-by sources of surface water: lakes, streams, ponds. Survey your surroundings and look for lower ground, as water drains downhill. It is generally best to avoid stagnant water (see *When*

### SOLAR STILL

*Should You Pass on Water?*, opposite), and purify any water you find out and about in the wilderness.

If you can't find surface water, watch for wildlife. If you see squirrels, raccoons, birds, or insects, then chances are there is a water source nearby. Quietly observe their routes, and they should eventually lead you to a water source.

In dire situations you could try digging into the water table for water: Look for low ground lush with vegetation. Find moist earth, dig a hole, and let it gradually fill with groundwater. A solar still (pictured) is another option when water is scarce, as is wrapping a clean T-shirt or other absorbent fabric around your ankles and then walking through a wet dewy field before the sun has come up.



## PURIFYING

There are three common ways to treat water once you've collected it: using some form of filtration, boiling it, or using a chemical purifier (tablet or liquid form). Often two or more of these methods are used together for optimal results, though a rolling boil for 1–3 minutes is always a fail-safe way to kill off bacteria and pathogens.

The easiest and most effective way to treat water while on the run is with an all-in-one portable filter. These filters, which were developed for hikers, campers,

and survival enthusiasts, generally have a high capacity and remove all debris, particulate, and virtually all harmful bacteria and pathogens. The Sawyer Squeeze filtration system (\$40) filters up to 1,000,000 gallons, is extremely easy to clean, and weighs only 3 ounces.

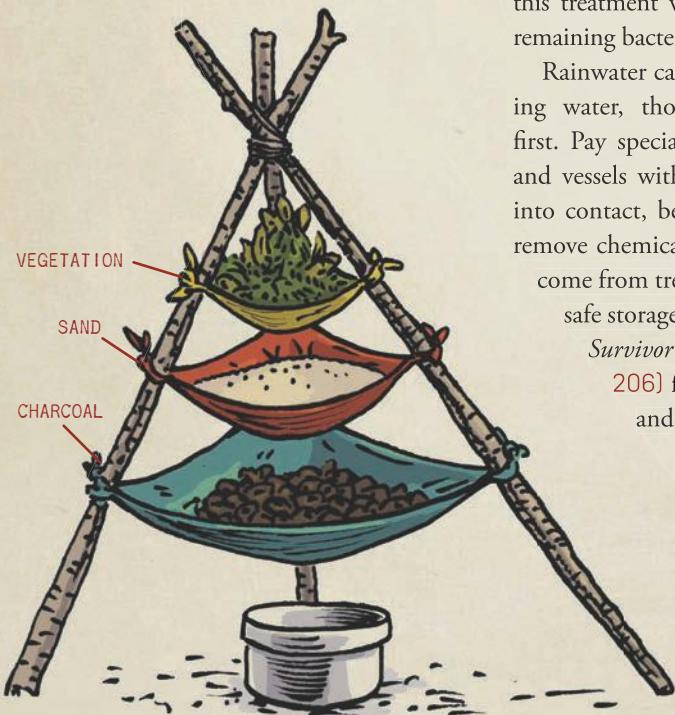
If you don't have access to modern filtration systems or chemical treatments, you can improvise a filtration system, like a filtration teepee (pictured), to remove debris and some bacteria. In a soda bottle or a teepee constructed using wood and clean fabric, filter the water through alternating layers of nonpoisonous vegetation, sand, and hardwood charcoal from your fire. Follow this treatment with boiling to kill off any remaining bacteria or pathogens.

Rainwater can also be a source of drinking water, though it should be boiled first. Pay special attention to the surfaces and vessels with which your water comes into contact, because even boiling cannot remove chemical contaminants that might

come from treated rooftops or non-food-safe storage containers. See *A Hydrated Survivor Is a Happy Survivor* (page 206) for more tips on harvesting and storing rainwater.

Above all, use common sense. Often it will be obvious to you which water sources are relatively safe and which are not.

## FILTRATION TEEPEE



## PRESERVING

Once you have collected and treated water, it should be stored in food-safe plastic or glass containers. As mentioned above, when scavenging storage containers, be sure to avoid anything that may have come in contact with chemical contaminants. Store water in a cool, dry, and dark place. Adding 8 drops of bleach, if available, per gallon of water will lengthen the shelf life of stored water by discouraging mold and other bacteria from growing.

Another important component to preserving water supplies is something preppers and survivalists call “water discipline”—a crucial practice whenever you have

a limited supply. Avoid dry, salty, or starchy foods as they require more water to digest. Do not consume coffee or alcohol. Do not smoke.

In extreme rationing situations, do not eat at all. Keep cool, and move as little as possible. Breathe through your nose and avoid talking. Plan your movements carefully, and plot a course of action for finding water rather than wandering aimlessly.

If you find yourself in a state of severe dehydration and manage to get water or some other drinkable liquid, *do not gulp it*. This will only make you hurl. Take small sips and hold them in your mouth before swallowing until you start to feel better, then take in larger amounts.

## Fire

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The lot of pre-historic man’s life was made a mite better by discovering fire and learning to cook food. Fast-forward 400,000 years (pre-zpoc), and many of us enjoy the shining modern convenience of stoves and ovens that put precision cooking at our fingertips. Technology! Advancement! But many of us would look a lot like our pre-historic ancestors, scratching our heads and making “huh!?!?” noises, were we tasked with building a fire sans modern conveniences like, say, a lighter.

While fire will be a solid player in your apocalyptic cooking roster (see *Apocalyptic Cooking Methods*, page 41), the usefulness of the skills in this section go way beyond cooking. You may find yourself shivering in the cold or with a pile of exterminated undead you need to get rid of. You should learn and practice fire-making skills until you are able to build a fire in any situation while wandering the wasteland.

Don’t underestimate the time and effort it takes to get a fire going. It’s not just a



matter of carrying matches; you need to find an adequate place to build it, gather the needed supplies, and coax your flames into a self-sustaining fire. So be sure to plan ahead and begin making preparations for your fire well in advance of when you think you will actually need it.

## SITE SELECTION

### Indoors

There will be times, particularly during the chaos and danger of the initial outbreak, when you must build fires indoors without the use of a functioning fireplace. This flies in the face of all that we know about fire safety, but with a few considerations and some basic gear, it can be done with minimal risk.

Your main priorities will be to safely contain the flames and minimize (or eliminate) smoke. This is most easily accomplished using a clean-burning fuel, like the fuel tabs that come with most survival stoves, or denatured alcohol, as used in the bevy can burner (*Building a Bevy Can Burner*, page 242). A clean burn can also be achieved by using a highly efficient wood-burning stove like the rocket stove (*Building a Rocket Stove*, page 77). Even when using clean-burning fires with little smoke, always make sure you are in a well-ventilated space and keep the fire lit only so long as necessary for cooking.

Naturally, clear the area where you will be building your fire of any and all flammables—curtains, fabrics, furniture,

books, etc. Always choose or prepare a surface to put your stove or other vessel onto; unless you have access to ceramic or sturdy tile or straight cement, try to find a sheet of metal or a cookie sheet to set up on. And *always* have a way to put the fire out near at hand—in most indoor spaces you should be able to find a fire extinguisher or at the very least earth from some potted plants.

### Outdoors

If you are able to, choose the location for your fire carefully. Ideally it will be sheltered, away from main roads or other known geek thoroughfares.

Select a spot where there is an adequate clearing of at least 10–15 feet on all sides, where nearby or overhanging trees and brush won't catch fire. Clear a patch of ground until you uncover bare earth. Again, have some way to extinguish the fire close at hand: a large pile of earth, or, if possible, a bucket or other container of water or sand.

## PREPARATION

Once you have an adequate site, you'll need three things to get the fire going: tinder, kindling, and fuel.

### TINDER

Tinder is the highly flammable material that will be used to coax your fire to life. For emergencies, you should stock tinder in the form of cotton balls, ranger bands, and fuel tablets in your survival tin and BOB, but generally you



should try to find tinder in your immediate environment. Tinder should be bone-dry. Bark and grasses, shredded paper, dryer lint, cotton balls, even tampons will work—be sure to keep an eye out and collect good tinder materials whenever you come across them; store them in a waterproof bag in your bug-out bag. The fine materials that make up your tinder should be loosely balled up for ignition.

## KINDLING

Kindling is the first bit of “food” your fire will ingest after successfully latching on to the tinder. It should be made up of slightly larger and sturdier materials than tinder: small sticks, feather sticks (think thinly shaving a piece of wood to create a cluster of thin curls, like string cheese), rolled up paper, or strips of cardboard.

## FUEL

Fuel is the material or materials on which your fire will sustain itself. Your best choices here are large pieces of wood; the size and quantity you need depend on how long you intend to let the fire burn.

When building a fire outdoors, try to collect hardwoods (maple, hickory, beech, and oak), as they burn better than softwoods, give off good heat, and are good for cooking. Resinous softwoods like cedar, alder, hemlock, spruce, fir, pine, and juniper tend to spark and burn more quickly and will give your food an awful, rotten flavor. Look for wood that is decidedly dead and dry, avoiding fresh or “green” wood because it will produce a lot of smoke and

burn poorly. Other items in the wild, like dry grasses and leaves, dried animal dung, and animal fat will work as fuel as well.

When building a fire indoors, remember that many pieces of furniture are covered with paints, varnishes, or other finishes that will give off noxious gases. You can also burn books (even *this* book could be used for fuel in a life-or-death situation!) and other paper sources.

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**TIP:** *In addition to the wood you need to build your fire, be sure to have a good supply on hand to maintain it once it gets going.*

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## ARCHITECTURE FOR WOOD-BASED FIRES

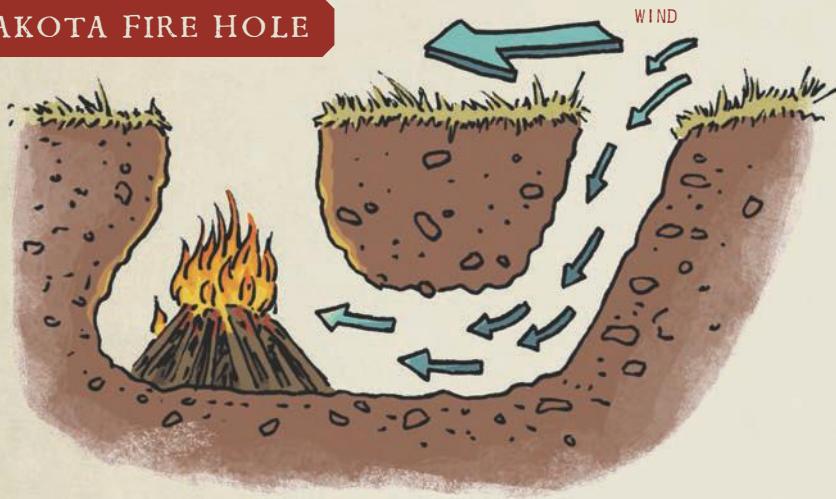
Once you have selected your site and collected your supplies, you are ready to consider the architecture of your fire. Here are four types of fire that should cover most of your needs when on the move:

### 1. Underground Fires: For Concealment

This fire type is useful for concealing your presence from potentially nosy undead neighbors or wandering hordes. The Dakota Fire Hole (pictured on the next page) is an easy method for a quick underground cooking fire. Dig a small hole, about 2–3 feet wide and 1–2 feet deep. Then dig a small connecting tunnel that ends about a foot away from the main hole. This will provide oxygen to your



## DAKOTA FIRE HOLE



fire, so position the tunnel opening in the direction from which the wind is blowing. In the original hole, use wood to build a small teepee or log cabin structure.

## 2. Hunter's Fire: For Quick & Easy Cooking

This fire (pictured) is simple and easy to set up, ideal for a quick meal on the run.



HUNTER'S FIRE

Find two large bulky logs, and build your fire with tinder, kindling, and fuel between them. The larger logs provide a platform that allows you to rest your cooking pot or pan over the fire without your vessel directly touching the flames.

## 3. Multiple Fire Pit or Trench: For Semipermanent Dwellings

This fire architecture is ideal for large groups and longer-term camps. You can design a multi-fire pit in any configuration you like. A simple but versatile design features a 6- to 8-inch-long trench in the earth, with a circular 6-inch pit at one end. Line the outside of the trench and circular pit with rocks. The circular pit could serve as a home for a large main fire, good for



cooking and providing heat. In the trench you can build several smaller fires, tending them as needed for different purposes. One could be dedicated to boiling water for cleaning and other general camp uses, while another could be kept in ember stage for baking and slower cooking.

If you have access to pots, you can build a wooden structure to hang them over the fire and use the paracord or snare wire from your BOB to hang them (see *Bushcraft & Improvised Cooking Implements*, page 272).

#### 4. Star Fire: For the Axe-less Survivor

This fire is most useful when you want a long-burning easy-to-maintain fire but can't find smaller sized logs or don't have access to an axe. Set up 4 large logs in a cross formation (or 6 logs in a star formation), leaving enough empty space where the logs come together in the center for building a starter fire. Once the fire is self-sustaining, you can start to introduce the large logs by slowly pushing them into the fire—introducing them too quickly might suffocate the starter fire.

### LIGHTING THE FIRE

Whether you have decided to construct a small hunter's fire or a large multi-fire pit, the trickiest and most crucial part of a wood-based fire will undoubtedly be in

lighting it. Gather needed supplies and method(s) of extinguishing so they are close at hand.

Ignite your tinder. Once the tinder is lit, begin the delicate process of adding kindling to ensure the flames become self-sustaining. In order to become self-sustaining, the nascent flames need the right balance of fuel and oxygen. If the kindling is too big or wet, or if you add too much kindling too quickly, the flames will be smothered. At the same time, if the tinder is too small or you add kindling too slowly, the flames will quickly die. Budding flames need to be coaxed. In inclement weather fail-safe supplies like ranger bands (bicycle tire inner tube) are especially helpful because they will burn even when wet. If your initial flames are giving off too much smoke, it could mean that they need more oxygen—don't be afraid to blow on them. Watch your fire carefully until it is self-sustaining and burning well.

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**TIP:** *It is easier to keep a fire going than to start a new one. If you have the luxury of being in one place for an extended period, keep your fire going by having a good supply of fuel wood at the ready.*

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## SCAVENGING SUPPLIES



# Scavenging

The survival tin and bug-out bag are great for basic preparedness but can only carry so much, making scavenging another mainstay in the zpoc survivor's skill set. The one maxim I will put forth for scavenging: reject your first idea on everything. For example, if you're hanging around your home during the initial outbreak and wondering where you might be able to find some canned tuna, don't consider for a second hitting up the corner store or your local grocery store. Wal-Mart? *Never*. Not only are those the kind of places everyone else will have tried, leaving nothing left, but the zeds will be happily feasting on an hors d'oeuvre

platter of stupidity and you'll be the cherry on top.

Or perhaps you're doing some casual browsing while *Living Off the (Waste)Land* ([page 237](#)), or setting up (aka, "digging in") your *Long-Haul Bug-Out Location* ([page 306](#)) and need to make a dedicated supply run to your closest population center. Bypass the obvious, and think outside the box for alternatives, like office lunchrooms, elementary schools, and abandoned houses.

Following are some guidelines for making scavenging safe and effective.

## SUPPLIES

When scavenging in the wasteland, a few basic supplies are extremely useful:

- ★ Bags for lugging your loot: duffle, backpack, plastic bag
- ★ Standard B&E fare: lockpick kit with tension wrenches, bolt cutters, crowbar
- ★ Spray paint for path marking (e.g., "Dead Inside" or "Area Cleared")
- ★ Paper and pencil for taking inventory of any items you'd like to return for
- ★ Protective gear for keeping your tender human flesh bite free: gloves, boots, helmet, face mask, etc.
- ★ Food and water for sustenance
- ★ Survival tin or basic survival items in case you are detained or on a multi-day trip: matches/flint, mess kit, etc.

### KNOW YOUR ZPOC LINGO: SCAVENGING, RAIDING, & LOOTING

**Scavenging** is the act of searching abandoned areas for food, weapons, ammunition, or other necessities.

**Raiding** is stealing from fellow survivors, either covertly or by more violent means. Those who do this are known as raiders or bandits and will be a continual threat during the zpoc.

**Looting** is the indiscriminate taking of goods by force, and most often happens during periods of mass social chaos and confusion.



## TARGETS

Here are short lists of places to avoid and to target:

### *Places to Generally Avoid (Unless Necessary)*

- ★ Convenience stores
- ★ Gas stations
- ★ Grocery stores
- ★ Hospitals
- ★ Pharmacies
- ★ Gun stores
- ★ Police stations
- ★ Camping or military surplus suppliers
- ★ Department and big-box stores like Walmart, Costco, etc.

### *Places to Seek Out*

#### **FOR WEAPONS & SUPPLIES**

- ★ Abandoned vehicles, especially police cars, fire trucks, and EMTs
- ★ Hardware stores
- ★ Private medical clinics, doctors' offices
- ★ Pet shops or veterinary hospitals
- ★ Libraries
- ★ Office towers
- ★ Jails

#### **FOR FOOD**

- ★ Restaurants
- ★ Schools
- ★ Private residences
- ★ Office towers
- ★ Jails

## PLAN OF ATTACK

Having some form of plan when scavenging an area will make your efforts effective and efficient. Here are a few tips:

- ★ Only scavenge during daylight hours.
- ★ Break down the immediate area into sectors or quadrants (e.g., northeast, etc.), and decide which areas you will tackle in what order. Scale could be as large as a city or as small as a block.
- ★ Avoid going solo. In larger groups, break into 2- to 3-person teams, then decide who will cover which area, who will be lookout, time frame, etc.
- ★ For large areas, send scouts ahead of your main party to survey the locale and possible target locations before proceeding.
- ★ Observe each building or structure before entering to avoid surprises: How many entrances/exits are there, do there appear to be signs of life? Un-life?

## ONCE INSIDE

You've scouted a location and taken stock of entrances/exits and any obvious zed activity. If the location is secured, you've used the lockpick kit, bolt cutters, crowbar, or good old-fashioned elbow grease to gain entrance. Now what?

If you are in a group, work in teams of 2 to 3. Once inside a building, secure an area (entire floors in larger buildings or the whole building for houses and other smaller locations) before searching it—make sure there are no zeds or other survivors hiding



or lurking. Be quiet and attract as little attention as possible.

If you uncover a glut of biters that seems even remotely overwhelming, clear out. Leave entrances and exits open so they can trickle out and you can pick them off from a distance (if you have a firearm) or revisit the site at a later time. Drop any bags or items if you need to move quickly—they will only slow you down.

When searching locations, be thorough: Check drawers, under mattresses, under furniture, in closets, bathroom cabinets, in garages, in sheds, etc. Having a pen and paper will allow you to note locations and items you want to come back for if the item's size or available bag space is a constraint.

Look at most everything with new eyes—there are potential secondary uses for most things. You can always use empty soda bottles or other plastic containers for growing food (see *Container Growing*, page 145), or steel drums could be used to

make a hobo stove (see *Apocalyptic Cooking Methods*, page 41). The wire from picture frames could be used for making snares (see *Tracking, Hunting, & Trapping*, page 25) and coffee tins or soup cans could be used to make a rocket stove (*Building a Rocket Stove*, page 77), for example.

## GETTING OUT

Mark all searched locations with spray paint or some other marker for future reference; tags (like, say, “Carl Was Here,” “Dead Inside,” or “Area Cleared”) could also potentially help other survivors passing through.

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**RECOMMENDED READING:** For more on a variety of tactical missions and general zpoc survival, check out *Surviving the Zombie Outbreak: The Official Zombie Survival Field Manual* by Gerald Kielinski and Brian Gleisberg.

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# Foraging

Did you know there are over 200 wild edibles in North America alone? Most people walk by wild edibles every day—growing out of cracks in the sidewalk or popping up as “weeds” in your garden—without ever knowing it. Once conventional food systems are wiped out, forageables can become a cornerstone of your diet and possibly your only source for fresh food.

## THE UNIVERSAL EDIBILITY TEST

Several of the most common and accessible edible wild foods across North America are identified and discussed throughout this book (see *Urban Hunting & Foraging*, page 99; *Into the Wild*, page 251; and *The Long Haul*, page 303, for more details), but what are hungry survivors to do if they can't find these species in their friendly neighborhood green space or while wandering around in the forest?

This approach to the Universal Edibility Test, as adapted from the *SAS Survival Guide* by John “Lofty” Wiseman, is a way to test any wild edible for safety. Although it takes about 16 hours to know definitively if a plant is safe, it is a reliable way of ensuring that a wild food is edible in the absence of identification guides. Be sure to have an empty stomach before beginning and test each part of the plant (flower, leaves, fruit, roots, etc.) separately.

- ★ Bruise the specimen slightly then hold it on the inside of your elbow for 15 minutes.
- ★ If no skin reaction occurs, touch a small piece to your lips for 5 minutes.
- ★ If no reaction or burning sensation develops, hold a piece on your tongue for about 3 minutes.
- ★ Next, chew the specimen and hold it in your mouth for 15 minutes without swallowing (spit instead). If at this



### A NOTE ABOUT MUSHROOMS

Mushrooms are a culinary delight; their flavor and versatility provide infinite opportunity for deliciousness. I heart mushrooms. Unfortunately, in the context of foraging at the end of the world, I recommend skipping the mushroom hunt.

The main reason for this is that they require a high level of skill and experience to forage reliably and safely. Many poisonous species look almost identical to their edible cousins, and developing the keen eye you need to distinguish between them is not a skill that comes easily—it takes a good deal of time and experience, and the in-the-field guidance of a veteran mycophile.



point there is no burning, stinging, or otherwise negative reaction, swallow and wait for 8 hours.

- ★ If no vomiting or diarrhea develops, eat a handful of the specimen and wait another 8 hours. If no symptoms develop during this time, it is safe to eat!

This test does not apply to fungi. See *A Note about Mushrooms* (opposite) for more information on zpoc mushroom hunting.

## GENERAL FORAGING TIPS

“Wildman” Steve Brill, environmental educator and author of *Identifying and Harvesting Edible and Medicinal Plants in Wild (and Not So Wild) Places*, offers these tips:

- ★ Pick plants in areas where they are thriving; it will be easier to collect a good

quantity and you are putting less strain on the stand of plants.

- ★ Take no more than 10% of any particular stand, and do not collect more than you think you will use.
- ★ Don’t uproot a whole plant if you only need the leaves! Collect only the parts you are going to use so the plant can regenerate.
- ★ Put each species in a different plastic bag or container, especially when dealing with new and untested species.

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**RECOMMENDED READING:** *For more on foraging for wild foods in North America, also check out Edible Wild Plants: A North American Field Guide to Over 200 Natural Foods by Thomas Elias and Peter Dykeman.*

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# Tracking, Hunting, & Trapping

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The vast majority of us have never once killed an animal for food. Such is the way of modern convenience—the meat we buy all pink and packaged from the grocery store is so far removed from the animal it came from that virtually all intimacy between our carnivorous appetites and the furry creatures that feed them is lost.

Come the rotters revolution, that will inescapably change. Survivors will almost

certainly be forced to return to some form of hunting for food. As Nathan Martinez, author of *Subsistence: A Guide for the Modern Hunter Gatherer* points out, if you want to really live off the land, you can't be squeamish.

## ETHICS

While many would argue that the ethics of hunting (and ethics in general, really) went out the door with the undead masses,



there are some general guidelines to keep in mind, particularly as you become more proficient at hunting:

- ★ Unless you are desperate for food or have no control when trapping, pass up obviously young animals, or at least wait until the fall when most young have had a chance to mature enough to leave their mothers. Sparing young animals is a good way to help support healthy population levels and future population growth.
- ★ Give animals a fair and sporting chance—that is, a fair chance at escape. While this piece of advice might seem more applicable to pre-zpoc sport hunting, unless you are starving it's not cool to just kill an animal in its den or by exploiting some other unfair advantage.
- ★ As you become more proficient at hunting with a weapon (firearm, slingshot, bow, etc.), do your best to find a clear shot to vital areas (chest or head). This is a more humane way of hunting because it will minimize the amount of suffering the animal experiences before it dies.

## TRACKING

Whether hunting, trapping, or using snares—before you bag anything, you will need to track it. This will require a keen eye and picking up subtle details in the natural landscape that you probably never noticed pre-The End of the World As We Know It (TEOTWAWKI).

The majority of non-nocturnal animals are most active in the first and last hours of sunlight, when they are traveling from or to

their dens and nests or visiting water and food sources. These are good times to hunt, particularly if you've located a den or nest that you can plant yourself at (see *Planting*, on [page 28](#)), or at the very least good times to observe animals and their habits.

Yes, most wild animals are creatures of habit, using the same paths to and from food/water day after day. In hunter lingo a “trail” is a well-worn path used by several species, whereas a “run” is a less-used path, typically used by only one species or even one particular animal. If you can find a well-worn trail or a run that appears to be in regular use, you've happened upon a wealth of information and a good place to employ snares and traps. How do you find them? Most animals will live reasonably close to a water supply, so that is a good place to start.

## HUNTING WITH A WEAPON

Whether using a firearm, slingshot, crossbow, or even a simple spear, hunting with a weapon is the most common way of hunting for sport and/or sustenance pre-zpoc.

When actively pursuing an animal you need to be:

### 1. UNRECOGNIZABLE

The human form, face, and hands are extremely recognizable to wild animals. Cover up with a handkerchief, gloves, or any other breathable fabrics you can scavenge!

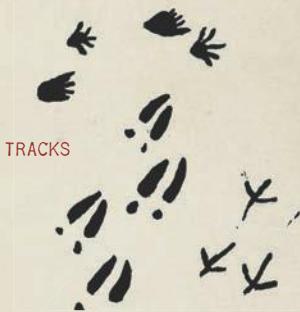
### 2. EXTREMELY QUIET

Because most animals have keen hearing, especially for sounds of movement at





BURROWS & DENS



TRACKS



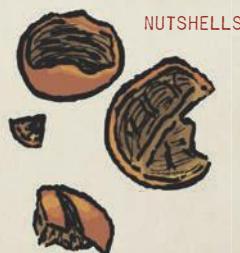
STRIPPED &  
SCRATCHED  
BARK



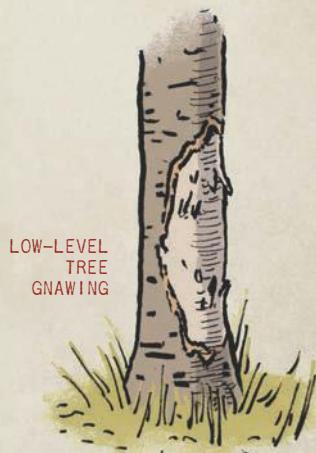
DROPPINGS



TORN OR  
NIBBLED LEAVES



NUTSHELLS



LOW-LEVEL  
TREE  
GNAWING

## SIGNS OF WILDLIFE



close range, you must learn how to move extremely slowly and quietly. Take advantage of “sound camouflage” whenever you can—wind, rustling leaves, etc.

### 3. DOWNWIND

Another keen sense for most wild animals is smell—and to most wild animals humans *reek* (and I am talking the living variety, let alone the rotters). Always stay downwind of your prey and mask your scent by saturating your clothing with smoke from a smoky fire.

Speaking of senses, generally two of three—scent, sight, and hearing—will be strong in any given animal. You can gain clues as to which senses an animal relies on most by simply looking at them—the larger the nose, ears, or eyes relative to the animal’s other features, the more the animal relies on that particular sense.

There are 3 general strategies for hunting, each of which has its advantages and disadvantages, depending on the type of prey:

### PLANTING

Planting is just what it sounds like—planting yourself in one spot and waiting for your prey to come to you. It’s especially effective when you know where your prey dens and for animals that are notoriously skittish, like squirrels and woodchucks.

### STALKING

Stalking is actively (and stealthily!) following your prey until you have a clear and potentially deadly shot. Moving slowly and

silently, and knowing when to move, is a set of skills that will take time and practice to master, but stalking is an effective method for hunting deer, moose, and elk, among other prey.

### FLUSHING & DRIVING

Many animals can be rustled up by walking through an area and “flushing” or “driving” them out of hiding. This is most effective when done in pairs or a small group, where one person can flush while the other shoots—though it does require coordination and a plan so that no (still living) human gets shot. It’s often used for raccoons, opossum, rabbits, and woodland birds like pheasants and grouse.

### HUNTING WITHOUT A WEAPON: SNARES & TRAPPING

Hunting with a weapon is great *if* you can use a weapon; for the inexperienced zpoc hunter, well-placed snares and traps have more potential for success and can be much more valuable. And really, the more methods for bagging animals you employ—using hunting, trapping, *and* snares—the more successful you will be in getting food into your craw. Added bonus: you can be bagging dinner while otherwise avoiding pesky woodland walkers.

All components for a trap or snare should be constructed well away from the area you plan to use it—this will cause less disturbance to the vegetation in an area, which animals are keenly perceptive of.



Don't use freshly cut wood for traps or snares—the “bleeding” sap is an alarm bell to wild animals. In addition, avoid transferring your scent to snares and traps by wearing gloves. You can also attempt to remove your scent by passing wire or nonflammable traps through flames to burn it off or mask your scent with urine (from previous kills, *not* human), mud, or strong-smelling food.

## The Basics

The three key components in any snare or trap are the trigger, power source, and bait.

### TRIGGERS

The heart of any trap or snare is the trigger—what puts the snare or trap into action. They are most often carved from wood.

### POWER SOURCES

The power source is what causes the snare or trap to entangle, trap, or kill your prey—often it is merely the struggling action of the prey itself, sometimes coupled with gravity. Bent saplings (providing a spring for spring snares) and heavy rocks or logs (providing deadly blows for deadfalls) are also common power sources.

### BAIT

Bait is what attracts the animal to your snare or trap, highly increasing your chances of a catch.

Bait must be both something the animal is familiar with *and* something that's not readily available to it. If your prey is

### THE DARYL DIXON INACCURACY

Here's a fun fact for all those Daryl lovers out there—not only is the crossbow Daryl Dixon uses on *The Walking Dead* a children's model (the Horton Scout), but the crossbow in general is a terrible zpoc weapon choice. Crossbows are *loud*. Granted, maybe not as loud as a gun, but certainly loud enough to attract unwanted undead attention. And they aren't all that quick to reload, either, making them terrible choices for close combat with zeds—though the reusability of bolts is a major bonus!



carnivorous, meat (from previous catch—entrails are generally good) is an excellent choice. For vegetarians, seeds, berries, and other fruits or vegetables that grow in the area are good options. Scatter some of the bait around the trap to allow the animal to sample and develop a craving for it, with the hopes of guiding it into the trap.

### Simple Snare & Traps

There are literally hundreds of snare and trap designs, all of which—according to Lofty Wiseman, author of *SAS Survival Guide*—can be grouped into “mangle” (deadfalls), “strangle” (noose snares), or “dangle” (spring snares). Many of the wide variety of snares are very specific to particular animals and therefore more difficult (and sometimes more effective) than the



simple snare and trap examples detailed in this chapter.

**RECOMMENDED READING:** *For advanced snare and trap building, check out The Trapper's Bible: Traps, Snares, and Pathguards by Dale Martin.*

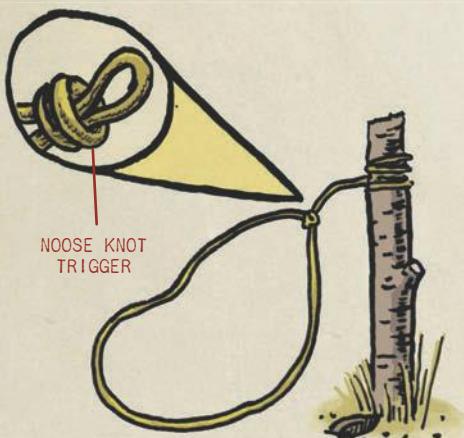
## BASIC NOOSE SNARE

A basic noose snare (pictured) falls under the “strangle” category mentioned above. Simple noose snares are made from a length of wire fitted with a noose knot at one end (the trigger). The opposite end of the wire is threaded through the open end of the knot and attached to a stake, forming a loop that should be set to a size and height appropriate for the intended prey. Once the prey walks into the snare and the loop is around its neck, the animal’s own struggle will act

as the power source, tightening the noose and trapping it.

Most often you will need to attach the snare loop to a stake, adjusted to neck height of the intended prey. Brass snare wire is a good material to use, though other sturdy wires (from a picture frame, for example) could be scavenged as needed. A thin rope or paracord could also be used, though these materials will require you to prop the noose open with additional string or small sticks. This snare is often put in front of burrow openings and works well for small game like rabbits, squirrels, and woodland game.

This snare does not naturally lend itself to baiting. However, you can prop up some bait on a stick so that it is in the middle of the circle created by the snare—though the animal might be able to grab it without passing through the noose. This trap may or may not kill the animal and your snares should be checked often—to avoid either losing your lunch to enterprising poachers or undue suffering for the animal.



**BASIC NOOSE SNARE**

## BASIC BOX TRAP

A basic box trap (pictured) is a small- to medium-sized box, usually constructed from wood, that lures prey inside with bait. Once the animal makes contact with the trigger set in the back half of the box, a sliding door at the front of the box is released, trapping the animal inside. The box trap is effective for small- to medium-sized game such as rabbit, squirrel, raccoon, etc.

The entire trap—box, door, and trigger—can be made from scavenged wood pieces



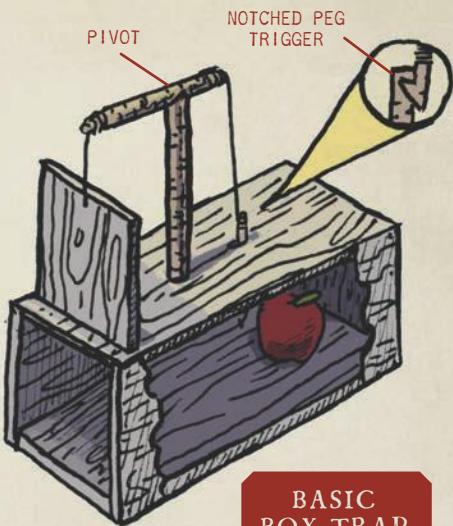
## HUMANE KILLING DURING THE ZPOC

Whether we are hunting, fishing, or trapping, care and respect should always be given to those furry and feathered creatures who will feed us, even in extreme survival situations where rotting and undead creatures are trying to feast on us.

Special care must be taken to make death as quick and painless as possible, without inducing too much fear or anxiety in the animal—this will not be a task for the faint of heart or unsteady hand (though I would imagine any survivors have got some true grit).

According to Dr. Temple Grandin (professor of Animal Science at Colorado State University, advocate for humane slaughter, and designer of livestock handling facilities), the quickest and most humane way to kill many animals is a shot to the head while they are distracted by food. When lining up a shot, the middle of the forehead is where to aim. Sheep and goats have a thicker skull at the front of their heads and require a shot to the back of the head.

In the absence of guns, there is really no truly humane way to dispatch larger animals. Smaller animals can be killed by breaking the cervical vertebrae (i.e., cervical dislocation or breaking the neck) then bled out with a slit of the throat. Fowl like chickens, guineas, turkeys, or other game birds can also be decapitated with a sharp knife, which results in instantaneous death.



BASIC  
BOX TRAP

or sturdy sticks and logs found in the wild). A simple notched peg trigger (as seen here) can be carved from wood. The trigger, in conjunction with a wooden pivot, keeps the door raised. Be sure that the peg trigger fits very loosely in its hole and the notch faces the front of the trap so that it is dislodged when the animal passes within. The exact dimensions aren't entirely important, as long as it will accommodate the types of game you wish to catch—if it is too big, smaller prey will be able to get past the trigger without hitting it. It is also useful to leave the back end open and cover it securely with mesh or some other screen, as animals are much more likely to enter if they can see through the other end.

A good general strategy for using any box trap is to let it stand open with bait scattered around and inside at the back of the box so that animals can become used to eating from them. After a few days you can rig the trap. This trap will catch, but not kill, the prey.



# Fishing

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I am convinced that fish is the best source of edible wild food in North America for the person in a survival crisis. Freshwater lakes and ponds, streams, creeks and rivers are abundant food reservoirs.

—J. Wayne Fears, *Complete Book of Outdoor Survival*

Chances are the thought of fishing during the rotters revolt won't conjure images of quiet waters and lazy afternoons in a canoe, beer firmly in coozy and bucket full o' the day's catch. No, much like everything in the zpoc, survival fishing will be frantic, haphazard, and absolutely necessary.

But hey, that quote above from foremost survival expert J. Wayne Fears (what a name) is encouraging, right? For those uninitiated in the ways of the angler, the act of fishing is pretty straightforward—line goes on pole, hook goes on line, bait goes on hook, then off you go! That is, of course, an oversimplification, but if you stop reading here you will at least have a general idea of how to cobble together the survival fishing gear in your savory survival tin and BOB.

Chances are, most of your fishing will be done in freshwater. (Check out *Wild Game Hunting during an Undead Uprising* [page 255] for a short guide to different

North American “panfish” species, where to find them, and how to catch them.) If you are near a coast or choose Maine for your *Long-Haul Bug-Out Location* ([page 306](#)), there are wonderful eats to be had from salt water—shellfish and ocean fish like porgies, black sea bass, and ocean perch.

Fish have varying habits. Some prefer to feed in the early morning while others prefer a later afternoon nibble. Some feed higher up the water column while others stay in the deep dark depths (the big guys!). Generally, however, they all require patience to catch (there's a reason that pre-zpoc countless hours were spent quietly bobbing along in a boat or sitting on a bank). They all like to swim under the radar—they like to hide and hang out around sunken logs, rocks, or other debris. And, for the most part, they will stay further down in cool waters during hot weather and closer to the surface in warmer water during cold weather.



Speaking of, there's an added bonus to apocalyptic fishing versus hunting and trapping—it can be a source of food throughout the year. Ice fishing anyone?

## GEAR

If you've got the survival fishing kit from your survival tin or (even better) bug-out bag, great. You are ready to start fishing. If you don't, you can try to scavenge gear in a nearby town or city or try the substitutes offered in the primer here.

## POLE

Fishing poles can be a pain in the behind when you're running from the undead—they take up a lot of room and can easily break. Luckily, most survivalists would agree that a pole isn't needed for a survival fishing kit because a pole is probably the easiest piece of equipment to substitute and scavenge—just grab a stick. That, along with the knot-tying skills outlined here (plus line and a hook, of course) are all you need.

## LINE

Commercial fishing line comes in a wide variety of diameters, or "weights." The "tested weight" of a fishing line refers to the weight of the fish it can handle. Generally, having a stronger fishing line than you think you'll need is desirable, but smaller fish can become "spooked" by a strong, large-diameter fishing line, which would stand out as unusual to them. A 50- or 100-pound line should cover most of your fishing needs, and in a pinch could also be

used to build snares or sew clothing. Wasteland substitutes: dental floss, heavy thread, thin wire, and sinew from large game.

## HOOKS

Hooks are what do the actual catching of your fish. Commercial hooks, which are designed specifically for fishing, are by far the easiest to use and most effective in hooking fish. Go for small as opposed to large hooks—small hooks can catch both small and large fish, whereas large hooks can only catch large fish. Small hooks have the added bonus of taking up a little less room. Wasteland substitutes: paper clips, soda can tabs, thorns, and carved bone.

## SINKERS

Sinkers, or weights, are used to bring your hook further down in the water, where bottom dwellers like catfish like to hang out. The current in which you are fishing will dictate the amount of weight you use—the stronger and swifter the current, the heavier the weight you need. Sinkers are also helpful in casting your line a farther distance. Commercial sinkers have their advantages over scavenged options in that they are small and dense—you get more bang for your buck without distracting the fish. Wasteland substitute: rocks.

## BAIT & LURES

Bait and lures are used to attract the fish to your hook. Bait can be real (insects, fish guts, fruit, etc.) or artificial (often plastic), while lures are typically artificial and have



hooks built into them. Generally lures (and sometimes bait) use color and flashiness to attract predatory fish by tricking them into thinking the lure is a live lunch. When scavenging for bait or lures, grab whatever you can find and work through trial and error. For bait, worms, fish entrails, dragonflies, and small minnows are good options. Bright fabric strips or flashy metallic pieces of streamer make good substitutes for commercial lures.

## LINE FISHING

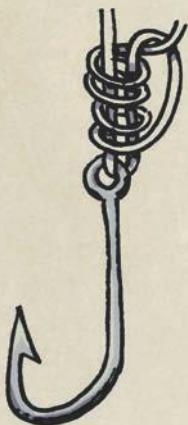
If you've got a reasonably quiet afternoon on your hands, in terms of biter activity, you can hang out and actually fish if you like. Pictured are two angling-appropriate knots: the Grinner knot, for attaching your hook to the line, and the Fisherman's Bend knot, for attaching your

line to a pole. While fishing, be sure to

stay back from the edge of the water—nearby fish can see further up on to the shore than you think.

Most of the time, though, you'll be busy with other important survival tasks, such as popping brain cherries and foraging, and will want to rig

GRINNER  
KNOT



FISHERMAN'S  
BEND KNOT

up some setlines or night lines to catch fish without your involvement.

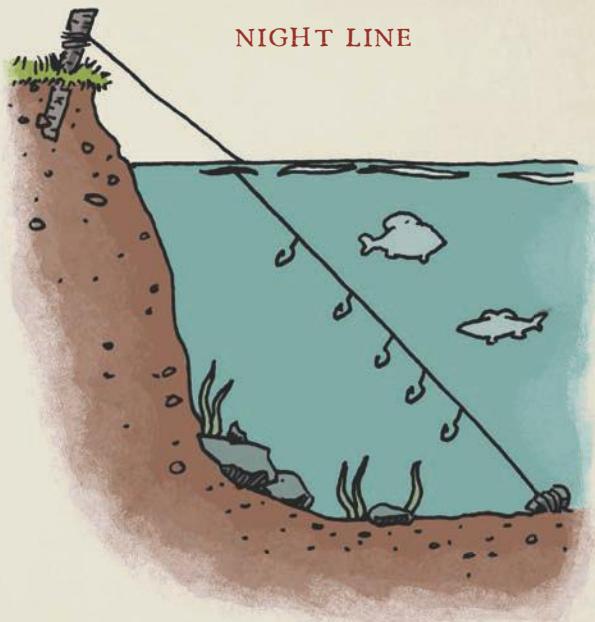
## SETLINES

The term “setline” refers to a stationary pole/stick with line, a hook, lure/bait, and weight (if needed) planted firmly in the bank and then left—just set it and forget it. (Actually, you should check your lines frequently and reset as needed.) Just be sure to set your pole far enough back that it's in solid ground and will stay put.

## NIGHT LINES

A night line (pictured) is a type of setline. It gets its name because it is often set at night and checked in the morning. While different people will set a night line in different ways, the general idea involves a length of heavy line (say 50–100 lb.), onto which several short lines (“drop lines”) with baited hooks are attached. Small knots are used to secure the drop lines in place so they cannot slide down the main line, and a solid weight (a rock works great) is added at the main line's end. The finished line should be attached to a pole using a





Fisherman's Bend and planted firmly into the bank. Cast the line by tossing out the weight to the desired distance and leave it largely unattended.

In this case using a stinky bait (viscera from previous catches, for example) is a good choice because the strong smell is broadcast in the water and can attract fish from farther away. However, experiment with several different kinds of baits and tailor based on your experience.

## AN ALTERNATIVE TO LINE FISHING: TRAPS

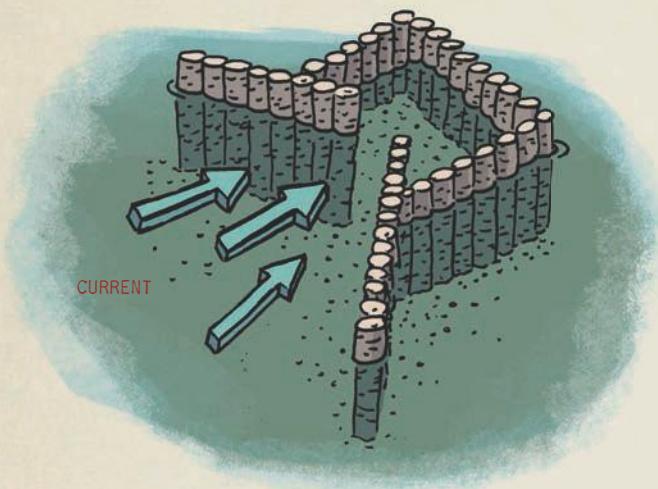
Just as there are many ways to skin a cat (no thanks, even during the zpoc), there

are several ways to trap a fish. The design of fish traps can vary widely, but the general idea is to funnel fish into a semi-enclosed area (which, frankly, they are too dumb to escape from).

A simple trap (pictured on the next page) can be constructed in shallow waters by driving wood stakes into the ground very tightly together to create a pen with three sides—(the stakes should be longer than the water is deep), and the open end of the pen should face down current. Then, drive more stakes to create a V-shaped funnel that points into the opening of the pen (obviously leave the bottom of the V open to allow the fish entry to the pen).



## SIMPLE FISH TRAP



Fill in any gaps that might be left in the open end of the pen, or angle your *V* so that it closes off the pen. Once you've caught your fish in the trap, you can use a spear to nab them.

## HUMANE HANDLING OF FISH

Once you've caught a fish, the most humane way of dispatching it is giving it a sharp bonk on the brain (behind the eyes) or inserting a knife into that same spot. Leaving them to suffocate out of water isn't all that nice *and* the undue stress will affect the quality of the meat.

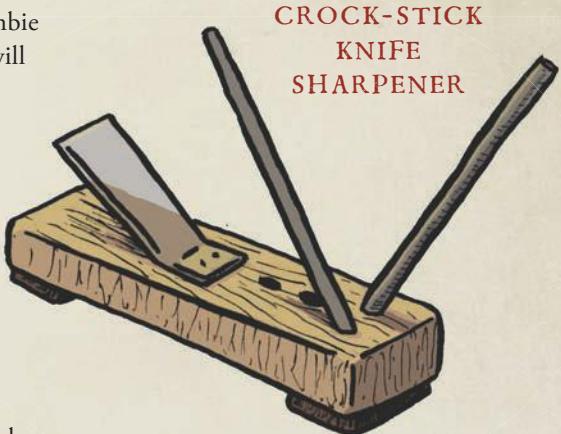


# Basic Field Dressing & Butchery

During the initial stages of the zombie apocalypse, most of your hunting will likely be for small- to medium-sized game and fish that will often be cooked whole or with minimal breaking down—for simplicity's and time's sake. In technical terms, this means little actual butchery and mostly “field dressing,” that is, removing an animal's extremities, skin, and innards. Even if you bag larger game, you will have little time, desire, or need for specialized butchery or particular cuts of meat. Therefore, the following section focuses on basic skills—exsanguinating (bleeding out), skinning/plucking/scaling, evisceration, and basic butchery.

Be sure to practice basic hygiene: Clean hands with hot water, heated over your campfire or stove, and of course use soap if it's available (see *Keeping Clean in the Apocalypse Kitchen*, page 48, for natural soap substitutes). Sterilize all tools you will be using in boiling water and have them close at hand while working. Also, before beginning, make sure the blades you will be using are very sharp. A crock-stick sharpener (pictured) is small, portable, and a good addition to the BOB.

Always dress animals several hundred yards away from well-used trails and runs as well as from where you will be sleeping. The inevitable mess will scare off the animals



CROCK-STICK  
KNIFE  
SHARPENER

who use the trails or attract unwanted attention of both the wild and undead variety to your camp.

## USEFUL TOOLS

In addition to the general-use hunting and survival knives in your *Flee with Flavor Bug-Out Bag* page 5, there are several specialized tools useful in the cleaning and butchering of game. Collect and carry as many as you can!

- ★ Boning knife
- ★ Butcher knife
- ★ Cleaver
- ★ Fillet knife
- ★ Meat or carpenter saw
- ★ Paracord or heavy rope for hanging large game
- ★ Paring knife



- ★ Plastic bags for meat and offal (preferably heavy-duty resealable freezer bags from your BOB) if not consuming right away
- ★ Knife sharpener
- ★ String or elastic bands for evisceration

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**RECOMMENDED READING:** *For more on knife sharpening and maintenance, check out The Complete Guide to Sharpening by Leonard Lee, and The Razor Edge Book of Sharpening by John Juranitch.*

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## BLEEDING OUT

Once an animal has been killed (see *Humane Killing during the Zpoc*, page 31), you should make haste to slit the throat or, preferably, sever the head and suspend the animal upside down so that the last few pumps of its heart will help drain the blood from the body.

You can bleed out any fish, though many would argue it's not needed for small panfish. A fish can be bled out by severing the major arteries (dorsal and ventral) that terminate in the gill/head area. Lift up the gill latch and make a sharp vertical cut upward almost to the top of the head—the heart will continue to beat for several minutes after the fish is dead, helping expel the blood.

## SKINNING, PLUCKING, & SCALING

It is best to skin an animal soon after killing, while the body is still warm and the skin more easily removed. However, if you

are not consuming the meat right away and cannot chill it outdoors or in a cold stream (temperatures at 40°F or cooler), wait until you are ready to cook the animal before skinning to protect the flesh from exposure to dirt and bacteria.

When skinning, always make an initial incision and then cut from the inside out—cutting from the outside in will get dirty fur onto the meat and possibly contaminate it. For small animals like squirrel, rabbit, or raccoon, remove the feet, tail (if applicable), and head. Make an incision under the skin at the belly, and, being careful not to puncture the flesh or organs underneath, cut all the way around the midsection like a belt. Grab the top end and peel it off like a shirt. Then grab the bottom end and peel it off like pants.

For larger animals like wild sheep and goat or deer, make a long vertical incision along the belly (again with caution, to avoid puncturing the flesh beneath), then branch the incision off to the legs as well. Peel the hide away, using light, quick strokes from a knife if needed. Removing the head, feet, and tail will generally be easier once the hide has been removed.

For birds, first pluck the feathers. The easiest way to do this is by “wet plucking”—submerging the bird in hot water (but not boiling, ideal temperature about 130°F) for nine alternating intervals of 30 seconds under water, 30 seconds out of water. Otherwise, you can carefully remove the feathers by “dry plucking”—a particularly good way of plucking for waterfowl, whose feathers are



very water resistant. Use a quick, decisive plucking motion rather than a pulling one to avoid tearing the skin, and do one feather at a time if they are tough to remove. The time frame for dry plucking is more flexible, as it need not be done while the carcass is still warm. Once the feathers have been removed, cut off the feet and head.

For most fish, simply scale while leaving the skin on—aside from rubbery little buggers like eel or catfish, fish skin crisps up nicely when cooked. To scale small and pan-sized fish, snip or cut off the fins then dip the fish in cool water (scales are easier to remove when wet). Run a spoon, butter knife, or other blunt object along the skin from tail to head; the scales should come off relatively easily.

## EVISCERATING & CLEANING

For small mammals like squirrel, rabbit, raccoon, or opossum, after the skin has been removed, make an incision the length of the underside from the groin to the front breastbone, being very careful to not cut any organs beneath. The best way to avoid puncturing internal organs is by making a small incision and, pointing the tip of your knife upward, (carefully) cutting toward you from the inside out. Then open the chest cavity and remove the entrails.

For larger animals like deer, it is useful to “tie off the bung” before eviscerating. This involves cutting a deep hole around the anus (male) or anus and vulva (female)—also known as the “bung”—and pulling the incised area out slightly to tie off the

exposed intestinal tract. This will prevent it from leaking when you remove it. Then, to eviscerate, open up the body through a long vertical incision along the underside, again being careful not to puncture the organs. When cutting out the stomach, clasp it shut with your hand or tie it off with string to avoid spilling its contents. After the intestines are removed, clean out any remaining glandular tissue around the bung area. It might smell foul—be sure to clean your knife and hands before continuing to remove the head and feet.

For birds, lay the plucked bird on its back and make a horizontal incision just above the anus—be gentle and slow so as to avoid nicking any internal organs. Once you have an incision big enough to slip your fingers into, vertically pull apart the upper and lower parts of the bird until you have a hole big enough to fit your hand. Reach into the body cavity and remove all entrails carefully.

For game large and small, rinse the cavity out with cool, clean water after eviscerating. Set aside choice tidbits like the heart, liver, and kidneys (see *The Offal Truth about the Zpoc*, page 264, for more information). If any parts of the animal were badly damaged by trapping or shooting, cut these away.

For fish, start at the tail and run your knife up the belly, being careful not to slice the intestines as you go—a fairly shallow cut should do the trick. Open up the body cavity and remove the innards (set them aside for bait). Cut the anus out with a V-shaped incision, and remove the kidneys



if you see them attached to the backbone. Rinse the entire fish in cool water—inside and out.

## BASIC BUTCHERY

Most often it will be easiest to cook small to medium game and fish whole on a spit (see *Bushcraft & Improvised Cooking Implements*, page 272); however, you can break even these small creatures down into smaller parts if you wish—a good way to share what meager catches you make with fellow survivors.

Both large and small game can be “jointed out”—that is, their legs removed at the joint—and their midsections broken down. For many four-legged game animals, the front legs are independent of the rest of the skeleton (with the exception of squirrels, who, like us, have collarbones) and can be cut away fairly easily. The back legs are typically attached through a ball and socket joint—first spread the leg and use quick slicing strokes to work your knife down to the joint, then pop it and finish removing the leg.

Birds can be handled in much the same way, first removing the neck bone, then the legs, wings, and finally breasts if you wish (see *Spit-Roasted Pheasant*, page 261, for further instruction).

To fillet small- to medium-sized fish (under 5 lb.), first cut the head off. Then lay the fish on its side vertically, with the tail end pointing toward you. Slip your knife under the tail skin, angle it, and cut till you can feel the backbone. Now run your knife along the backbone toward the head end of the fish. Do the same on the other side. Repeat this same process again if you wish to remove the skin from the fillets. For larger fish, start at the head (do not cut it off) and make a vertical cut down to the backbone. Then use the head to hold the fish steady as you move down toward the tail.

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**RECOMMENDED READING:** For a more comprehensive look at butchering a wide variety of game, check out John J. Mettler Jr.’s beginner’s butchery guide, *Basic Butchering of Livestock & Game*.

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# Apocalyptic Cooking Methods

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Unfortunately, cooking over an open flame during the zombie apocalypse won't offer quite the same charm or enjoyment that it did before it became a survival necessity (especially in the absence of s'mores). Live fire cookery poses a whole new set of challenges and requires an array of new skills that must be honed almost entirely through experimentation and experience. Cobbling together fire-based stove and oven hacks, learning how to work with flame and ember for consistent temperatures, accounting for differences in fuel sources, and avoiding giving away your location to passersby are just a few of the challenges that lay ahead.

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**TIP:** *When seeking out fuel for wood fires, steer clear of softwoods like pine or fir, as their smoke makes any foods it comes in direct contact with taste rancid, and avoid the chemically treated or finished woods often found in furniture.*

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## PLAYING WITH FIRE: DIRECT VERSUS INDIRECT HEAT

The science and thermodynamics of cooking—it's probably the last thing you want to think about when you've discovered that Brad has been hiding a bite from the rest of your group, turned into a zeke,

and made a real mess of the camp kitchen. But a few basics will vastly improve your abilities as an apocalyptic cook.

In a zpoc setting, where the world has gone dark and most of your cooking will employ fire in some way, shape, or form, you have two main tools at your disposal: the flames themselves and embers that are created as fuel burns down in wood fires.

These tools can be used in two different forms of cooking: direct and indirect. Cooking over an open flame is a direct cooking method whereby the food is cooked via a process called conduction. The flame comes in direct contact with the food itself or when its heat is transferred to the food via a conductive medium like a pan or pot. Grilling and baking, in contrast, are indirect cooking methods—the food does not come in direct contact with the heat source. When grilling, the food is suspended above the heat source and cooked by the heat that radiates from it. When baking, the heat source transfers energy to air within an enclosed space, which then cooks the food via a process called convection.

Using flame and embers to produce consistent cooking temperatures is probably the biggest challenge in apocalyptic cooking (see *Judging Temperature* on [page 47](#) for further guidance), and there will always be some degree of variability and unpredictability when working with a live fire or embers.



## DOUBLE FUELING

If you build a large fire pit, rake aside some of the live fire and its fuel, letting it burn down to embers while you keep the main fire going. According to Sarah Huck and Jaimee Young, authors of *Campfire Cookery*, by “double fuelling” you can make use of both flames and embers for direct and indirect cooking methods. Restock the embers from the main fire as needed.



For direct cooking methods involving an open flame, changing the temperature could mean adjusting how much contact your food or cooking vessel has with the fire—adjusting the height of the food or vessel so that the flames are fully and constantly touching the bottom of your pan versus the occasional lick, for example. Temperature can also be controlled by changing the fierceness of the flame or by moving your pan on and off the flames as needed.

For indirect methods involving fire or embers, distance from the heat source and the intensity of the heat source can be tweaked to control temperature and cooking times: moving the heat source up or down as needed, increasing or decreasing the number of embers, or using hot and cold zones (as described in *Hibachi Grill* on page 46).

While developing a feel for cooking with live fire, the most common problem you are likely to face will be temperatures

that are too high, burning the outside of food before properly cooking the interior. Because of the variability that goes along with live fire cookery, it will require your constant attention and tending to—never leave food or fire unattended!

The stove and oven alternatives described below are intended to be but simple aids on your journey to becoming a proficient apocalyptic cook, something that will only come through experience and experimentation. Tweak their basic designs, experiment with construction materials and fuel sources, figure out what works and what doesn’t, and craft your very own hacks. Excelsior!

## STOVETOP HACKS

No electric stove? No problem. Add these direct heat hacks to your apocalyptic culinary repertoire to impress all your still-living friends and achieve that pre-zpoc stovetop-cooked taste.

## CAMP OR EMERGENCY STOVE (ESSENTIAL BACKUP)

Camp or emergency stoves are compact foldable single burner stoves often used by lightweight backpackers and survivalists. They typically come with a small supply of solid fuel tablets, though many can be used with wood or some other fuel as well. While they can only accommodate small pots or a mess kit, because of their fuel versatility, ease of use, and portability, they are good items to have in your BOB as a backup cooking method.



## HOBOK STOVE (EASY, REPLACEABLE)

A hobo stove is a simple makeshift stove that can be constructed out of a discarded tin can (tuna, cat food, soup, coffee, etc.) and can replace the emergency stove in your survivor cooking arsenal. To build one, poke small air holes around the top rim of the can, and a larger air hole close to the bottom (closed end) of the can. To use, put fuel into the can and light. Convection draws air in through the holes to help fuel the fire. This basic design can also be scaled up for larger containers like steel drums.

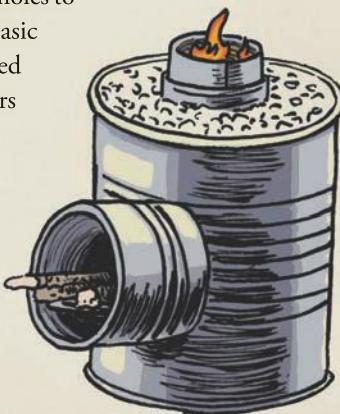
## ROCKET STOVE (FOR INDOOR COOKING & HEATING)

Rocket stoves are extremely fuel efficient and, when properly constructed, produce very little smoke, making them good for indoor and outdoor use. The basic design can be scaled up or down in size depending on intended use and materials available. While you may be able to scavenge a pre-zpoc, pre-assembled rocket stove at camping and outdoor outfitters, you can build a small portable version with an unopened #10 can (think the large 6 lb. cans of coffee you might see in groceries or wholesalers like Costco), 4 standard-sized soup cans, and some insulation (perlite,

vermiculite, damp sand, or earth). See *Building a Rocket Stove* (page 77) for complete instructions on assembly.

## BEVY CAN BURNER (VERY SMALL & LIGHTWEIGHT, REPLACEABLE)

Bevy can burners, or soda can stoves, are a favorite among ultralight minimalist backpackers for their ease of construction and super light weight (about 1 oz.). They can be made from as little as two empty soda cans and provide high heat for quick (15 minute) cooking. With a simple addition, you can regulate oxygen intake and the rate at which the fuel burns to achieve a lower temperature that will burn for about 2 hours. Because they burn alcohol as fuel and produce no smoke, they are an excellent option for cooking indoors. Instructions for *Building a Bevy Can Burner* can be found on page 242.



ROCKET STOVE

## BEVY CAN BURNER



## HEAT CONTROL & POT SUPPORTS

Pot supports are just what you might think—items or structures used to support pots above stovetop hacks like the bevy can burner or hobo stove where the pot cannot sit directly on the hacks themselves. They can also be used to control heat and cooking time by manipulating the cooking vessel's distance from the flame.

You can try to scavenge a campfire grill for use as a pot support (an open metal grid with legs that sits over the flames/embers), but these are bulky, heavy, and not very portable. Alternatively you could fashion good pot supports of varying sizes with some scavenged chicken wire—a material that works particularly well because it can be reinforced with several layers (allowing for heavier pots) and yet still maintains excellent air flow. But even a simple circular or rectangular structure of bricks or rocks would be effective—just be sure to allow enough open space for air to reach the fire.

See *Bushcraft & Improvised Cooking Implements* (page 272) for other woodsy options!



## WASHING BASIN FIRE PIT (SIMPLE, REPLACEABLE)

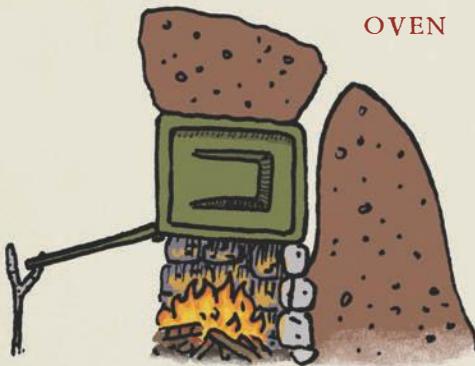
The internal metal basin from an obsolete washing machine makes for an excellent stovetop hack and wasteland fire pit—it will

safely contain a fire for cooking while its perforated sides will provide ample oxygen to the fire and radiate heat for warmth. Support the whole setup with bricks.

## OVEN HACKS

There are lots of ways to use indirect heat for baking in the absence of a proper oven. Preheat these hacks in your brain oven and get baking!

AMMO CAN OVEN



## AMMO CAN OVEN (QUICK & EASY)

The ammo can oven (pictured) is a crude makeshift oven that was traditionally used by the military in survival situations. While the military-issue oven made use of “ammo cans”—the sturdy metal boxes used to store ammunition—you can build one using any metallic box with a lid and a live fire (just be sure the box wasn't previously used for any really noxious purpose). Suspend the closed metal box containing the food you want to bake over a live fire, adjusting height as needed to achieve the desired temperature.





## EARTH OVEN

You could also heap the container with embers, as with a Dutch oven (see below). Ideas for scavangeable metal containers: mailboxes, stripped-down electric ovens, and the bodies of charcoal grills (legs removed).

### EARTH OVEN (QUICK & EASY, ALL NATURAL)

The mud oven's little brother (see *Hacks That Do Double Duty* below), the earth oven (pictured) is a quick-and-dirty way of cooking food when no gear or scavangeable equipment is available. It requires only wood for a fire, rocks, vegetation, and earth; see *Earth Oven* (page 269) for instructions on building one. An excellent option for nomadic survivors out in the wild, the earth oven is best for moist indirect cooking applications like steaming.

### HACKS THAT DO DOUBLE DUTY

#### FIREPLACE (MAJOR BONUS)

While the undead moaning at your door and

slowly weakening your makeshift defenses isn't exactly conducive to a relaxing evening by the fire with a glass of whiskey, having a working fireplace when you are holed up is incredibly fortunate, especially during the initial outbreak when it will be dangerous to go outside. For stovetop functionality, find something to support pots and pans directly over the fire (think nonflammable), or to mimic oven cooking try an ammo can oven (opposite) or a Dutch oven (below).

### DUTCH OVEN (EXCELLENT, NOT PORTABLE)

Dutch ovens are large heavy pots, typically made from cast iron and fitted with a lid. They are very versatile cooking vessels that I would insist you have with you at all times during the zpoc if they weren't so damned heavy—but they are must-haves for a *Well-Stocked Safe House* (page 203) or *Long-Haul Bug-Out Location* (page 306). The cast iron that Dutch ovens are made from makes them excellent retainers and conductors of heat, useful for virtually any cooking



## BAKING WITH EMBERS

When using embers to bake, as with the Dutch oven or Hibachi, be sure to give your fire a good 1- to 2-hour head start to build up an ample supply of embers—cooking with them will likely require more embers than you think. While you wait, use the open flame for other direct heat cooking.



or baking method—look for non-enamelled fire- (and zpoc-) friendly versions. Park your Dutch oven over flames for general cooking. To use the Dutch oven for baking, preheat using embers: Set the vessel on a bed of embers in addition to using embers to cover the lid. Use the Hand Method (see *Judging Temperature*, opposite) to check the temperature before adding food. Once food is in the oven, only a thin layer of embers (both underneath and on the lid) is needed to maintain cooking temperatures and to help avoid scorching your grub. Remove all embers, being careful to avoid getting ash in your food, before removing the lid.

## HIBACHI OR OTHER CHARCOAL GRILL (VERY ACCESSIBLE)

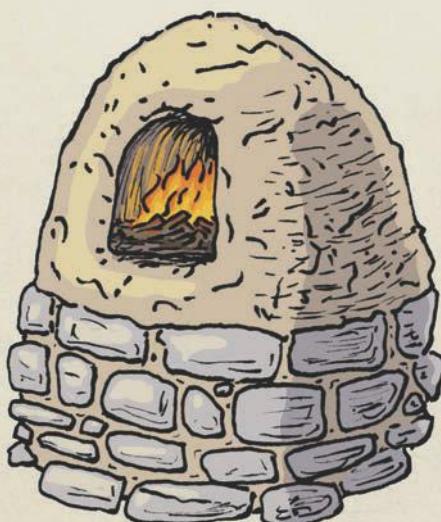
Ubiquitous little pre-zpoc relics, the infinitely useful charcoal grill offers a great way to cook or bake on the run in populated areas—even without charcoal. Grill with the top off for

stovetop-like functionality, or keep the lid down for slower cooking and baking; create hot and cold zones by clearing certain sections of embers, and try keeping the food over the cold zone. The air vents on the lid and body of charcoal grills can be used to play with temperature when cooking with the lid down—all vents open will run a high temperature, whereas closing the lid vents will help maintain a medium heat.

## MUD OVEN (EXCELLENT, NOT PORTABLE BUT REPLICABLE)

A mud oven (pictured) is a no-tech cooking tool perfect for those survivors who are bugging in with outdoor access or those setting up a location for the long haul. A simple mod can make it a great stovetop alternative as well; see *Long-Haul*

### MUD OVEN



*Mud Oven* (page 320) for instructions on building one.

## JUDGING TEMPERATURE

Because the days of precision temperature dials and oven controls are gone, learning how to judge temperature in the absence of a thermometer will help you avoid

countless burned breakfasts and blackened dinners.

There are a few no-tech ways of judging the temperature. The following are from fire cookery experts Sarah Huck and Jaimee Young, authors of *Campfire Cookery*.

### 1. Hand Method

This method is good for judging radiant heat sources like embers or a preheated pan. Hold your hand about 6 inches over the source and count how many seconds pass before you must take your hand away:

**500°F:** 1 second

**450°F-500°F:** 2–3 seconds

**400°F-450°F:** 3–4 seconds

**350°F-400°F:** 4–5 seconds

**300°F-350°F:** 5–6 seconds

**250°F-300°F:** 6–7 seconds

Use with: *Hibachi Grill, Ammo Can Oven, Dutch Oven, Mud Oven*

### 2. Eyeball the Embers Method

Useful for any cooking or baking method that employs embers, here you rely on assessing the look of your embers to estimate temperature:

**500°F:** Thin ash layer on the ember, bright red

**400°F-450°F:** Thicker ash layer, glowing red

**350°F-400°F:** Thick ash, slight glow

**300°F-350°F:** Solid ash, not glowing

Use with: *Hibachi Grill, Ammo Can Oven, Dutch Oven*



### COOKING WITHOUT GEAR

Nature offers up lots of ways to cook food in the absence of a mess kit or other modern-day gear like pots or pans—sticks, rocks, edible leaves, clay, and earth are all great alternatives. Here are some wild tips and tricks:

// Wrap dough on or spear meats with sticks for that woodsy je ne sais quoi!

// Heat up rocks in the fire and then cook on 'em! Or use them to heat an enclosed space for baking! Or use them to boil water if fire real estate is otherwise spoken for with your catch of the day. Just be sure the rocks didn't come from a waterway as they might explode (see *Cooking with Rocks*, page 269).

// Wrap foods in nonpoisonous leaves to bury in embers or make an *Earth Oven* (page 269)!

// Add water to a hole heavily lined with alternating layers of nonpoisonous vegetation and rocks, then add hot rocks from the fire to get a boil going!

// Cover whole fish in clay and bake; when fully cooked, removing the clay will also remove the scales/skin!



### 3. Live Fire Method

This is a good guide for adjusting the distance between your pot or pan and the flames to achieve a specific temperature. Scavenge some pot supports (see *Heat Control & Pot Supports* on page 44) or a whip up bushcraft pot rods (*Bushcraft & Improvised Cooking Implements*, page 272) and get cooking!

**500°F:** Flames fully touching the bottom of the vessel

**450°F-500°F:** Flames reaching the bottom of the vessel

**400°F-450°F:** Flames occasionally reaching the bottom of the vessel

**350°F-400°F:** Flames just below the vessel but not touching

**300°F-350°F:** Flames well below vessel

**250°F-300°F:** Flames are low

Use with: *Emergency Stove, Hobo Stove, Ammo Can Oven, Hibachi Grill, Dutch Oven, Fireplace, Washing Basin Fire Pit*

## Keeping Clean in the Apocalypse Kitchen

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Remember: Cleanliness is next to zombielessness (or something like that). What I mean is, keeping clean with undead body parts flying around (infected by virus, prion, fungal parasite, or otherwise)—not to mention the complete deterioration of society and all its perishable trappings—is important!

Here are some tips for keeping clean in your apocalyptic “kitchen” no matter where or when you find yourself in the zpoc.

### GENERAL GOOD HYGIENE

Wash your hands! Especially after brain bashing! (If there is no soap available, there

are alternatives; keep reading.) Also, wash dirty dishes right after using—they will be much easier to clean. And when all else fails, you can always sterilize tools, tongs, and what have you by putting them in good old boiling water for about 10 minutes.

### WHEN BUGGING IN DURING THE INITIAL OUTBREAK

Maintaining food hygiene while bugging in is relatively easy. You should have cleaners already in your home, and once the dust settles a bit, you can scavenge from your less fortunate undead neighbors. Think bleach, borax, liquid dish or laundry soap,



## DIY ALL-PURPOSE DISINFECTANT & CLEANSER

2 c. water  
20 drops tea tree or pine oil  
2 tbsp. white vinegar  
½ tsp. liquid dish or laundry soap



and powdered laundry detergent. They are all versatile choices for mixing up your own cleaners.

## IN THE WELL-STOCKED SAFE HOUSE

When preparing a well-appointed safe house ahead of time, be sure to stock up on versatile cleaning agents that can form the base for several different types of cleaners:

### BORAX (SODIUM BORATE)

Also known or marketed as sodium borate, borax can be used alone as a general purpose surface cleaner for its disinfecting and deodorizing properties or combined with water, a few drops of liquid soap, and baking soda for a DIY laundry detergent. It can also be used with vinegar as a good zed-fighting stain remover.

### BAKING SODA (SODIUM BICARBONATE)

Aside from its usefulness in baking, baking soda is a mild alkali that can assist in dissolving dirt and grease in water. A simple

paste made from water and baking soda can be used as a general cleaner, or baking soda can be combined with vinegar to form a scouring or scrubbing paste with some disinfectant power.

### VINEGAR

The acetic properties of vinegar make it great for removing stains, mildew, and soap scum. Its antibacterial properties also make it a good disinfectant—a 5% solution can kill most common bacteria (don't chance it with any zed germs, though).

### RUBBING ALCOHOL (ISOPROPYL ALCOHOL)

A solution of water and rubbing alcohol (at a 1:4 ratio of alcohol to water) also has great disinfectant properties and doesn't leave behind the smell that vinegar does. Plus, rubbing alcohol has a myriad of other uses: fuel for your *Bevy Can Burner* (page 242), relief of muscle pain (yup, that's why it's called rubbing alcohol), deodorant (*yes!*), and treatment of bug bites and ticks. Bonus: It's also great for bartering.

### HERBAL EXTRACTS

Many herbal extracts have disinfectant properties (and smell good to boot)—peppermint, eucalyptus, tea tree, yarrow, and pine to name a few. When combined with water, vinegar, and a little liquid soap (see *DIY All-Purpose Disinfectant & Cleanser*, above), these properties are enhanced to make a good all-around disinfectant cleaner.



## IN THE WILD

Out in the wild you will have to depend on what nature gives you. Luckily, it turns out she gives lots of options, including:

### WOOD ASH

Combine wood ash from your fire with water and (if the dirty dishes don't have any already on them) a small amount of fat to make a thick paste. Apply this mixture to your dishes, leave for a few minutes, then scrub clean and rinse with clean potable water.

### PINE OR FIR BRANCHES

Most coniferous needles have natural disinfectant properties (see *Herbal Extracts* on page 49). The branches of trees like pine and fir (pictured) can be used as au naturel brushes to scrub dirty dishes with makeshift ash soap.

### PINE & FIR BRANCHES



### YARROW

Yarrow (pictured), a flowering plant found throughout North America and most of the northern hemisphere, can be used as a

### OLD-TIMEY SOAP MAKING

Remember how you can use hardwood ashes to scrub pots and pans in the bush? The same basic idea can be refined a little to make proper soap. Here's how:

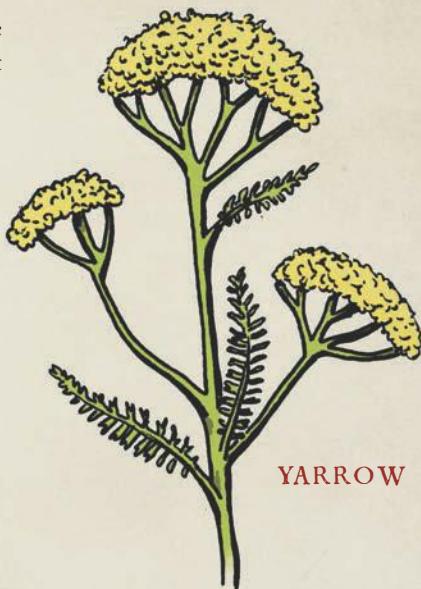
1. Take wood ashes from your fire (all hardwood is preferred) and add to a large pot. Fill the pot with water and boil the ashes until they fall to the bottom. Strain off any remaining ashes and boil the remaining liquid until it is reduced by about half. You now have some crude lye.
2. Heat about 4–6 cups of fat (can be any scraps from any animal, or prepared lard if you have it available) until all the fat has rendered and liquefied, straining first if needed to remove any crunchy bits that might scratch skin. Add it to the pot of hot lye.
3. Boil the mixture until it becomes thick like porridge.
4. Pour the mixture into a wooden box or specially made mold and allow to cool—you will have a soft soap. To make hard or bar soap, remove the mushy mixture from the heat and add salt (about half a pint for every gallon of mixture) and mix to incorporate before adding to the mold(s).
5. Once the mixture is in the mold(s), you can mix in some of the herbal infusions outlined in this chapter to make it smell pretty, if you like. Use on your body, dishes, whatever.



powerful disinfectant. Rub it between the hands to disinfect them—or even use it directly on wounds!

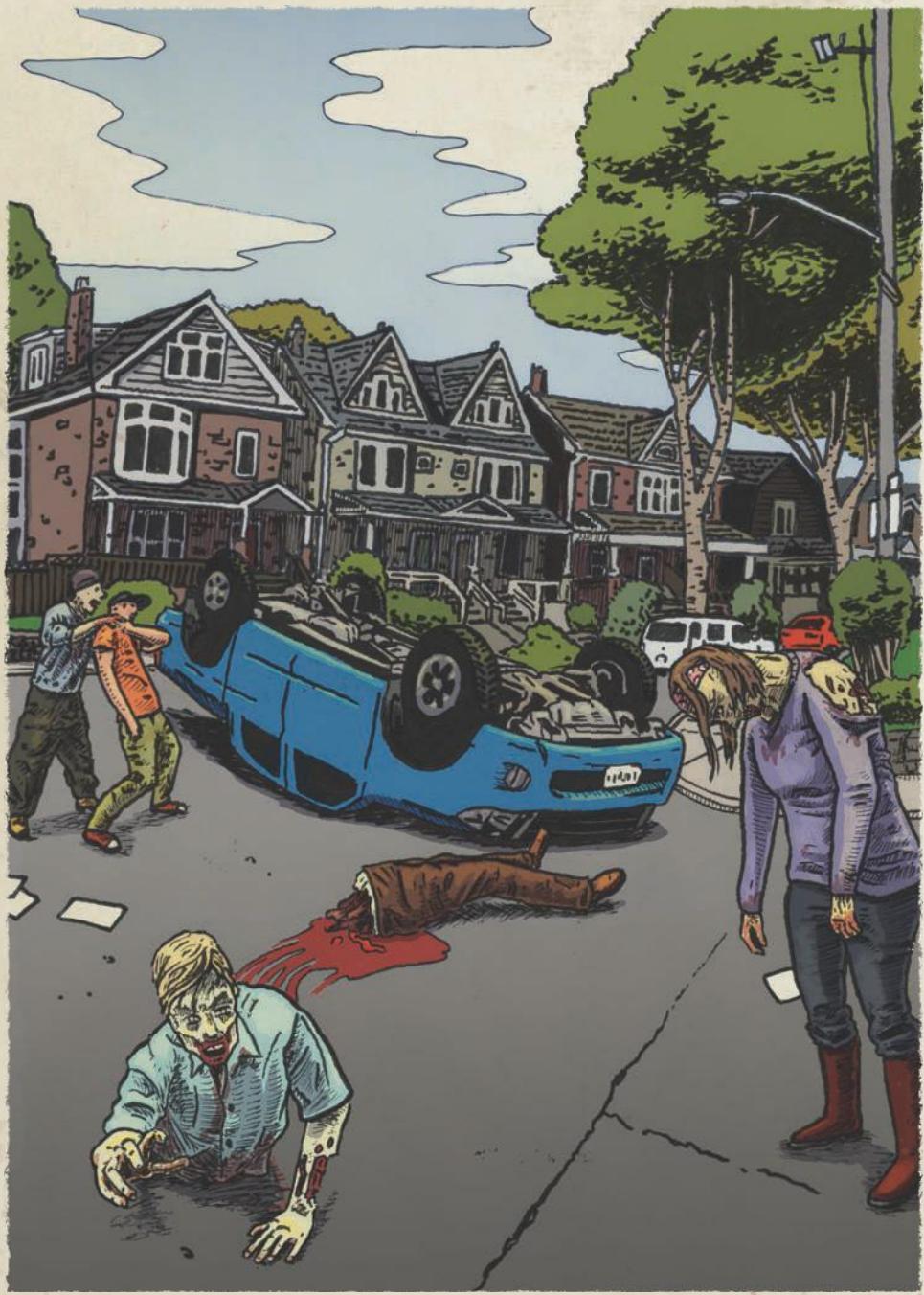
## LONG HAUL

In addition to the natural cleaners outlined previously, the long-haul survivor can use rendered animal fat (any kind) and wood ashes to make soap (see *Old-Timey Soap Making*, opposite).



YARROW





BUGGING IN,  
or NOUVEAU  
HOME  
CUISINE





RAID, PILLAGE,  
& PLUNDER (YOUR FRIDGE)



Huh? There was a news report of some guy whacked out on bath salts eating some other dude's face off in the street today? Hurmmmm, there was a piece in the paper about a lady being mauled to death by an unidentified wild animal in a nearby park? Welcome to the zpoc!

Society is going to the undead dogs, and you are tasked with making it through this hellmare alive (and I don't mean re-alive). Either it is too late to bug out, you have decided you have a better chance at surviving by holing up, or, perhaps, you just refuse to give up your turf to those bloody monsters out there. Being the levelheaded and culinary-minded survivor you are, your first thoughts drift to menu planning—at this stage of the game, power will be going out anytime now . . . But, if you are bugging in, the undead won't be the only ones trying to get in at you: malevolent raiders and frantic stragglers will undoubtedly be trying to break in as well.

So, dear survivor, turn your precious energy and attentions to fortifying your home (think an arsenal of brain-bashing weapons, Molotov cocktails, trip wires, nails protruding from the welcome mat, and boarding up those windows with any damn wood you can find), and let this helpful section provide the game plan for the food.

The recipes here are quick, simple, calorie rich, and, perhaps most importantly, comforting. Yes, that's right, they're the zpoc equivalent of the post-financial-crisis comfort food trend. So get ready for warm, indulgent, and satisfying meals that can be fixed in a jiffy and/or need minimal attendance. These recipes are geared to the first days of the outbreak—when the power is either still running or has just gone out—and so, will focus on perishable ingredients that most people would have on hand in their refrigerators and freezers.





## OVERNIGHT OF THE LIVING DEAD FRENCH TOAST

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Welcome to the zombie apocalypse! Tomorrow is a big day: you will be losing your head (hopefully not literally) trying to fend off the newly infected. On top of that, those pesky little weak spots in your fortress will surely present themselves, leaving you overwhelmed with survival and physical defense-focused activities.

Before you go to sleep tonight (if it even seems safe to do so), why not plan

ahead for breakfast? Not only will it help use up some of your perishables (milk, eggs, butter, bread), it will also give you a calorie-rich jumpstart to your undead-filled day.

If the power has already gone out, reduce the amount of time you soak the bread to a couple of hours and use an *Oven Hack* (page 44) to cook this bad boy.



## YIELDS:

4 Hungry Survivor servings, 6 Regular  
Joe servings

## REQUIRES:

Chef's or survival knife and cutting board  
1 bread knife  
1 small mixing bowl  
1 mixing spoon  
1 fireproof baking dish (preferably  
7" x 11")  
1 large bowl  
1 whisk (or fork)  
Piece of foil, to cover baking dish

## HEAT SOURCE:

Indirect, conventional oven or other  
*Oven Hack* (page 44)

## TIME:

10 minutes prep  
4–8 hours inactive soaking time  
35 minutes unattended cooking time

## INGREDIENTS:

$\frac{1}{4}$  c. (4 tbsp.) butter, melted  
 $\frac{1}{2}$  c. brown sugar  
12 oz. bread (challah, raisin, French  
baguette, Wonder—whatever you got,  
preferably a mix of several different  
kinds), sliced into strips 2–3 fingers wide  
 $\frac{1}{2}$  c. dried cranberries or raisins  
6 eggs  
2 tbsp. granulated sugar  
 $1\frac{1}{2}$  c. milk, cream, or combination  
1 tbsp. vanilla extract  
1 tsp. ground cinnamon  
 $\frac{1}{2}$  tsp. ground nutmeg

$\frac{1}{2}$  tsp. ground ginger

Pinch of salt

3 tbsp. rum, orange liqueur, or brandy (optional)  
1 c. nuts (walnuts, pecans, or almonds),  
roughly chopped and preferably toasted  
(optional)

Maple syrup, to taste

## METHOD:

① Mix together the melted butter and brown sugar in a small mixing bowl. Spread the mixture along the bottom of the baking dish.

② Put down a layer of bread fingers, overlapping and filling gaps where needed. Sprinkle with dried fruit. Repeat with remaining bread and fruit.

③ In a large mixing bowl, whisk eggs and granulated sugar together until the sugar has dissolved, about 1 minute. Add the milk/cream, vanilla, cinnamon, nutmeg, ginger, salt, and liquor/liqueur (if using). Whisk until incorporated, creating a custard.

④ Pour the custard over the bread and dried fruit, sweeping back and forth to moisten the whole top layer, filling any nooks and crannies. Cover with foil and let sit for 2 hours (no refrigeration) or at least 4 hours to overnight (in the fridge).

⑤ Preheat oven (for perhaps the last time!) to 375°F or set up an *Oven Hack* (see *Judging Temperature*, page 47).

⑥ Remove foil from the baking dish and sprinkle with the toasted nuts (if using). Drizzle lightly with maple syrup.



⑦ Bake uncovered for 30 minutes, then cover and bake for another 15 minutes to avoid overbrowning. Check after 20 minutes or so—cooking time will vary widely depending on your setup.

⑧ The French toast is ready when the custard at the center feels set (i.e., not jiggly, squishy, or raw). Let stand for 5–10 minutes, then drizzle liberally with more maple syrup before tucking in.

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**DRYED FRUIT SUBSTITUTION:** *Nearly any dried fruit can be used in place of cranberries or raisins in this recipe; cherries or apples work well as direct substitutions. If using other dried fruits (say, apricots or anything tropical), I would also adapt the spices accordingly, swapping cinnamon and nutmeg for lemon zest or lemon oil extract, for example.*

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## Guerrilla Gardening

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Before whipping up the last fresh salad you will be eating for a while, take note: those butt ends of romaine that you normally chop off and toss? You can totally reanimate those suckers for some zombie fresh fare. They can be regrown for a fresh crop of lettuce in a mere couple of weeks, so don't throw those crunchy hunks of gold away (or at a zombie). Same goes for bok choy, celery, and scallions! One man's garbage is another man's garden.

And guess what? All you need to grow garlic or potatoes? A clove of garlic. An intact potato. These two will take more time to mature, though, so it would be prudent to start growing your own food pronto.

Find additional tips and tricks for growing these scraps and more in *Container Growing* (page 145).

### ROMAINE, BOK CHOY, CELERY

Put the root ends of these vegetables in a shallow dish with about  $\frac{1}{2}$ –1 inch of water and place the dish in a sunny window. Replenish the water as needed. After about a week or two, you should have romaine leaves big enough to munch. The hearts of celery and bok choy will take about a week to sprout dark green leaves, at which point you can plant them (and your romaine too, while you're at it!) in zpoc potting mix (see *Initial Outbreak Agriculture: Growing Incognito*, page 135), leaving the leaves exposed. After a few weeks, you will have a plant worth cutting down and starting again.

### SCALLIONS

Like romaine, bok choy, and celery, you can put the root end of scallions into



## GEORGE ROMERO DOES NOT WANT TO EAT YOUR BRAINS!

Though he is the grandfather of the modern zombie movement, George Romero is not (contrary to popular belief) responsible for the braaaaaiiiinnns predilection that most people associate with today's undead. The origins of the zombie brain fetish can actually be traced back to the black comedy *Return of the Living Dead* (1985), a movie originally written by John A. Russo, Romero's partner on *Night of the Living Dead* (1968), and later completely overhauled by writer/director Dan O'Bannon to purposefully depart from Romero's canon—by including the brain fixation. Another fun fact: *Return* also features the original fast zombies.



water to induce regrowth—just use a taller container like a glass or jug to support their quick vertical growth and fill with 1–2 inches of water. Within a week you should have full stalks of scallions that are ready to eat. At this point you can also plant them in a potting mix, which will give them a more pleasant home and allow them to be continuously harvested—when the scallion greens have regrown to about 6 inches, cut them down to the earth and they will begin their regrowth.

## POTATOES

Potatoes are a very valuable high-calorie, high-carb crop, so if you can grow them, you surely should. The plants can grow quite tall and will do best outside in warm, sunny weather, but you can grow them in a warm and sunny window as well, housed in a nice large container like a burlap sack, (thoroughly clean) plastic garbage bin, or large pot.

Cut  $\frac{1}{3}$  of the potato off and place three toothpicks  $\frac{3}{4}$  of the way down from the cut so the potato can be suspended from a glass or mason jar with the cut side immersed in water. After 2–3 weeks in a sunny window, the potato should have leafy sprouts (called slip vines) coming out of the top and white roots growing into the water. When the leafy sprouts are about 5 inches high, gently twist them off—there should be a hole in the potato where the sprout used to be and a nice base left on the sprout itself. Now put these sprouts into loose potting soil in a large container or burlap coffee bag (perhaps the one you bought your green coffee beans in; see *Cooking in the Well-Stocked Safe House*, page 203), leaving the leaves exposed. It takes several months to grow mature potatoes, though you could always harvest them when they are babies (signaled when the plant flowers).

## GARLIC

Those tiny little annoying cloves of garlic that you always resent peeling can actually be put to good use: in growing some fresh garlic! Each clove will produce its own plant and ultimately its own bulb (aka head).



There are two general types of garlic, hard- and softneck. Hardneck garlic does better in cooler climates of the north, while soft-neck does better in the south. Depending on where the garlic you bought came from, it might be either of these varieties, but if you have a nice sunny window, both can be grown in potting mix indoors.

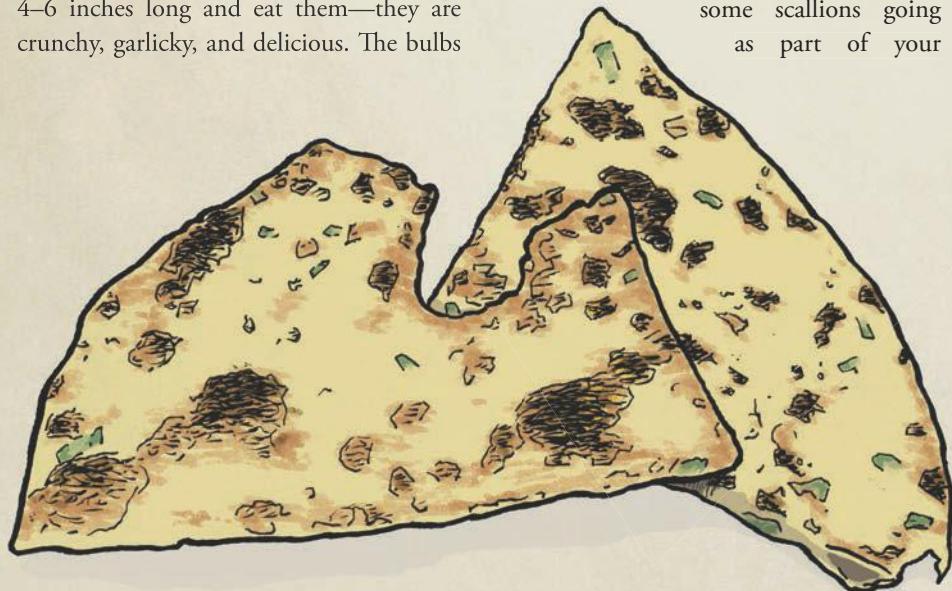
Select cloves whose skin is still entirely intact. You can plant 8–10 cloves in a 5-gallon bucket or container; just be sure to space them 4–6 inches apart. For each clove, make a hole about 1–2 inches deep and drop it in. Cover the hole with potting mix, water well, and keep moist until you see green leaves sprouting from the earth. Once the leaves have peeked out, water only when the soil is dry. Eventually you will see a tender green shoot (a scape) sprout out. You can harvest scapes when they are about 4–6 inches long and eat them—they are crunchy, garlicky, and delicious. The bulbs

will take 7–8 months to mature, and you will know they are ready when the bottom leaves have browned and withered; the upper leaves will still be green. Avoid too much handling or cleaning, as the bulbs are sensitive to damage, and any bruising or cuts will shorten the life of the head. Lay harvested bulbs out to dry further in a single layer, until the skins are papery.

## GUERRILLA SCALLION PANCAKES

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Flour + hot water + fat + scallions = a no-brainer for the holed-up survivor. If you've managed to get some scallions going as part of your



*Guerrilla Gardening* (page 60) efforts, then you really must make these simple but oh-so-tasty snacks.

While the ingredients are few and simple, there are a couple of tricks that will help these pancakes turn out just right. First, they rely on a hot-water dough for their characteristic tug and chew, so be sure to use boiling water. Second, their lovely airy and crisp texture is achieved by creating layers of dough and fat, which is achieved by rolling them up tightly like a cigar, twisting the roll into a spiral, then rolling the dough out a second time. And lastly, the cooking temperature is key—too hot and they will be burned and blistered, too cold and they get oily and heavy. A medium-high temperature should yield light and crispy pancakes.

#### **YIELDS:**

1 Hungry Survivor serving, 2 Regular Joe servings

#### **REQUIRES:**

Chef's or survival knife and cutting board  
1 small pot  
1 large heat-proof bowl  
Wooden spoon or other cooking utensil  
Cast-iron skillet or other frying pan  
Rolling pin  
Pastry brush or fingers  
Tongs

#### **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* (page 42)

#### **TIME:**

35 minutes prep  
30 minutes cooking time

#### **INGREDIENTS:**

1 c. boiling water  
2 c. all-purpose flour  
Pinch of salt, plus more to taste  
 $\frac{1}{4}$  c. oil, preferably sesame but canola or olive also work  
1 $\frac{1}{2}$  c. sliced scallions

#### **METHOD:**

- ① Set up a cooking fire or other *Stovetop Hack* and bring the water to a boil in a small pot. In the meantime, measure the flour and add to a large heat-proof mixing bowl along with a pinch of salt.
- ② Add most (about  $\frac{3}{4}$  c.) of the boiling water to the flour and mix until it comes together in a ball. After mixing, if it is still too dry to hold together, add the rest of the water in small increments until it does.
- ③ Transfer the ball to a floured surface and knead it for about 5 minutes (be careful, it will be quite hot at first) until it is nice and smooth. Coat the ball in a thin layer of oil, put it back in the bowl, and let it rest for half an hour (or longer).
- ④ Cut the ball into quarters, then roll each quarter in your hands lightly to form a ball. Working on one pancake at a time, roll the ball out until it is about  $\frac{1}{4}$ -inch thick. Apply a thin layer of oil to the dough, sprinkle with about a quarter of your scallions and a pinch of salt, then roll it up tightly



like a cigar (or a jelly roll). Twist the roll into a spiral and roll it out again until nice and thin, being careful not to go too thin and have the scallions pierce the dough. Repeat the same process with the other balls of dough.

⑤ Add enough oil to a pan to create a very thin uniform layer at the bottom, then preheat the pan over a medium-high heat. When hot (the oil will be shimmering, but not smoking), gently drop the pancake in. Shake the pan every now and again and gently flip the pancake using tongs when the underside is nicely browned—about

2 minutes. Cook the second side until browned and crispy, another 1–2 minutes. If you have access to paper towels, you can set the cooked pancakes onto a plate lined with them. Repeat with the other pancakes. Serve immediately.

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**A NOTE ON SERVING:** *Enjoy these crunchy, chewy delights with a dipping sauce made from ¼ cup soy sauce, 2 tablespoons rice vinegar, 2 tablespoons fresh (or 1 tsp. powdered) ginger, and a touch of honey or sugar.*

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## Plan of Attack for Perishables

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*Flick!* Whoever it was that kept the electricity flowing has either fled (optimistic) or been devoured by their zombified coworkers (more likely). Either way, the world has gone dark. That means the clock has started ticking on anything in your fridge and freezer. Hopefully you were able to haul your cooler out of the basement and have freezer packs at the ready. If not, don't worry, all of *Raid, Pillage, & Plunder (Your Fridge)* is dedicated to making the most of your perishables (while helping you pack on a little extra “cushioning” to get you through the leaner times to come).

For starters, don't open the fridge or freezer until you absolutely have to. When kept closed, the fridge can keep foods cool for up to 8 hours, the freezer up to 24. Secondly, trust your gut! We once depended solely on our eyes, nose, and taste buds to figure out whether or not food was safe, and we've used our senses for far longer than we've used expiration dates. Don't get too uptight about the 4-hour rule or the safety zone or anything else you thought you knew about food safety; follow your nose and use common sense.



Having said *that*—here are some tips for working your way through the perishables:

- ★ Meat, poultry, fish, dairy (milk, cream, or yogurt), cooked foods, and soft cheeses will go south quickest, so start with them.
- ★ Sealed foods like yogurt and packaged cheese will generally have a little more wiggle room.
- ★ Consider using harder cheeses (Cheddar, Colby, Swiss), thawed fruits and vegetables, mayo, prepared horseradish, cream-based dressings, sauces, spreads, and other condiments as accoutrements to the most perishable foods, or move on to these for the next phase of face stuffing.
- ★ Some sauces and condiments like soy sauce and Worcestershire are fine indefinitely at room temperature.
- ★ The hardest cheeses and butter (Parmesan, Grana Padano, Pecorino) will be fine to eat for at least a few days.
- ★ If your milk sours before you can drink it, don't fret! It's basically just buttermilk. Use it for baking (muffins, pancakes, etc.).
- ★ Eggs are fine to stay out of the fridge for an extended period. They age about a week for every 24 hours outside the fridge, so note the expiration date and do the math. Or, test them by putting them into a container with water; if they float don't use them.
- ★ If it's colder than 40°F outside, stash food on a balcony or rooftop if possible (but

## TO PLUNDER OR NOT TO PLUNDER?

That is the question. The title of this section, *Raid, Pillage, & Plunder (Your Fridge)*, should give you an idea about *this* survivor's personal opinions on looting (affectionately referred to here as *plundering*) during the initial outbreak.

First, looting is morally reprehensible. And, before you roll your eyes thinking "*Who is this n00b?*," yes, I get how the moral fabric of society breaks down when it's every survivor for him/herself. But I guess I am really just an early zpoc Rick Grimes at heart, no extreme or overtly selfish action unless it's absolutely needed. But most importantly, not only is joining the mob of panicked (still living) people looting stores and other establishments just plain stealing (see *Scavenging, page 21*, for the distinction between looting, scavenging, and raiding), but it's also just plain stupid. There are mindless meat-hungry monsters out there turning everyone into zombies. 'Nuf said.



definitely stay out of ground-level backyards or garages if they are not heavily secured).

- ★ Remember that some food will inevitably go to waste. Target the most nutritious and fatty foods to consume.



# THE WOK-ING DEAD STIR-FRY

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This is an excellent dish that not only uses perishable meats and fresh vegetables, but is also well-balanced nutritionally and relatively light, which will help keep you nimble and alert in the face of the walking dead.

Don't be intimidated by the long list of ingredients in this recipe—assembling and cutting your veggies will be the most time-consuming part and it is still a quick meal. This recipe is very flexible—you can swap ingredients and increase/decrease quantities based on what you have on hand and how many survivors you have to feed.

No wok? No problem. Just cook the ingredients in several small batches at high heat to mimic the wok effect. Another key to success for this recipe (wok or no) is in cutting all ingredients into uniform and smallish pieces to make for quick cooking times.

## YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings

## REQUIRES:

Chef's or survival knife and cutting board  
3 medium mixing bowls  
1 small mixing bowl  
1 whisk (or fork)  
1 wooden spoon or spatula  
1 slotted spoon (if using a skillet)

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
(page 42)

## TIME:

30 minutes prep  
5 minutes cooking time

## INGREDIENTS:

1 egg white  
2 tsp. cornstarch  
1½ tsp. plus 1½ tbsp. Chinese rice wine,  
mirin, or dry sherry, divided (Scotch or  
even Tequila could be used in a pinch)  
1½ tsp. water  
Salt, to taste  
8 oz. protein (chicken, beef, pork, firm  
tofu), cut into approx. 1" cubes or thin  
slices  
2 bell peppers, cut into 1" slices or  
small dice  
2 ribs celery, thinly sliced  
1 c. broccoli, cut into half-bite-sized  
pieces (frozen could work too)  
2 c. shredded carrots  
2 c. very thinly sliced greens (cabbage,  
kale, spinach, or chard)  
1 c. thinly sliced onion or scallion (or a  
mix of both!)  
½ c. peas (fresh or frozen, not canned)  
¼ c. chicken or vegetable broth (or  
water with a teaspoon of soy sauce or  
Worcestershire sauce)  
1 tbsp. soy sauce  
1 tbsp. minced ginger  
3 cloves garlic, minced



- 1 tsp. sriracha sauce, chili flakes, or other hot sauce
- 1 tbsp. hoisin sauce (optional)
- 2 tbsp. peanut or vegetable oil

#### METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*. To a medium mixing bowl, add the egg white, cornstarch, 1½ teaspoons of rice wine or substitute, 1½ teaspoons of water, and salt to taste. Mix until the cornstarch is dissolved. Add your protein and coat thoroughly. Set aside.
- ② Separate vegetables out by cooking time: harder vegetables like bell peppers, celery, and broccoli together in one remaining medium bowl; carrots, greens, onion/scallion, and peas in the other.
- ③ In a small bowl, combine remaining rice wine, the stock/water, soy sauce, ginger, garlic, hot sauce, and hoisin (if using). Bring all ingredients, a spatula, and

a slotted spoon within hand's reach of the cooking pan.

- ④ Heat a wok or pan on high heat until a drop of water evaporates after a second or two, then add the oil and swirl to coat the whole pan.
- ⑤ Add the harder vegetables, stir-fry for 2 minutes until crisp-tender. If using a skillet, remove with slotted spoon and set aside. If using wok, proceed to next step.
- ⑥ Add softer vegetables, meat mixture, and rice wine/stock mixture to the wok/skillet.
- ⑦ Stir-fry for about 2 minutes, until the sauce has thickened and the protein is cooked.
- ⑧ If using a skillet, add back the harder vegetables and toss until well combined and heated through, about 1 minute.
- ⑨ Taste and adjust seasoning if needed. Serve immediately with a side of rice.

## CHOOSE YOUR OWN GRILLED CHEESE ADVENTURE

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When the power goes out and you are looking for a way to use up bread and cheese, I mean, really—*duh*. Could there be a more perfect initial outbreak survival food? Grilled cheese sandwiches have it all—they are high in calories, and they contain fat,

protein, *and* carbs. An ooey-gooey grilled cheese is one of the few foods that can remind you that life is still worth living *and* comes together in less than 10 minutes.

Plus, they offer an excellent opportunity for culinary improvisation. Along with the



cheese, you can shove almost any ingredient between those two slices of bread. When melted, the cheese will act as a binder, making it a self-contained zpoc superfood. And if before biting into your perfect sandwich you happen to get distracted by the ever-growing number of biters outside, don't fret! Virtually all grilled cheese sandwiches will taste just fine cold.

Many of the ingredients here might challenge your preconceived notions of "grilled cheese"—but hey, preconceived notions are so pre-apocalypse. It's supposed to be a grilled cheese *adventure*, right?

## QUICK TIPS

According to grilled cheese guru and James Beard Award-winning author Laura Werlin, there are a few foundations any grilled cheese adventurer should know:

- ① Grate your cheese—to achieve consistent and quicker melting.
- ② Get the right cheese-to-bread ratio—more cheese than bread, or "thick cheese thin bread." Trim your bread down if you need to.
- ③ Spread the bread, not the pan—whether using butter, oil, mayo, bacon fat, what have you, spreading onto the bread directly will ensure better and more even crisping.
- ④ Use a nonstick pan—cast iron is great, but who has time to waste with sticking during the zpoc?
- ⑤ Flatten while cooking—use a light weight (a foil-wrapped can works great) or you

can simply press with the spatula when you flip.

- ⑥ Go slow—keep the heat at medium or lower to allow the cheese to melt before the bread burns.
- ⑦ Cool it—let the sandwich cool for at least a few minutes before eating, it will taste *much* better this way.

To these most excellent tips I would add one further consideration of proportions, particularly when it comes to strong flavors. Strong cheeses like blue or Parmesan, sweet additions like jam, or strong mix-ins like bacon, kimchi, or olives can quickly overpower other flavors in the sandwich, so use them sparingly. Try to give thought, even if cursory, to achieving harmony in your GC—a happy ending to your adventure, so to speak.

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If you choose to flex your own creative grilled cheese muscle, keep reading.

If you would rather just have an excellent grilled cheese concoction handed to you, turn to [page 70](#).

Or, if you choose to cook up your GC on your very own *Rocket Stove*, turn to [page 77](#).

## INSPIRATION FOR BUILDING A GREAT GRILLED CHEESE SANDWICH

The categories here are by no means exhaustive, but use them as a jumping-off point to mix and match according to what you have on hand and your own personal apocalyptic flair.



## BREADS

- ★ Bagel
- ★ Baguette
- ★ Brioche
- ★ Challah
- ★ Ciabatta
- ★ Classic white Wonder
- ★ English muffin
- ★ Multigrain
- ★ Olive (or any flavored!) bread
- ★ Potato roll
- ★ Pumpernickel
- ★ Rye
- ★ Sourdough

## CHEESES

- ★ American
- ★ Blue, like Roquefort, Stilton, or Gorgonzola
- ★ Brie
- ★ Cheddar
- ★ Cream cheese
- ★ Emmental
- ★ Gouda
- ★ Gruyère
- ★ Havarti
- ★ Manchego
- ★ Monterey Jack
- ★ Mozzarella
- ★ Parmigiano-Reggiano
- ★ Pecorino
- ★ Ricotta
- ★ Taleggio

## TEXTURAL ENHANCERS

- ★ Blanched fresh veggies like broccoli rabe, green beans, peas, and/or Brussels sprouts
- ★ Chips! Corn, potato, whatever you've got

- ★ Pickled cukes, jalapeños, or banana peppers
- ★ Seasoned crushed instant ramen noodles
- ★ Toasted chopped nuts

## FLAVOR BOMBS

- ★ Bacon
- ★ Browned and seasoned ground meat
- ★ Canned tuna
- ★ Caramelized onions
- ★ Cold cuts
- ★ Fried Spam
- ★ Huītlacoche
- ★ Minced fresh herbs
- ★ Prepared horseradish
- ★ Sauerkraut
- ★ Sautéed mushrooms
- ★ Sautéed or roasted garlic
- ★ Sliced hot dogs

## SAUCES

- ★ Adobo
- ★ BBQ sauce
- ★ Creamy salad dressings
- ★ Harissa
- ★ Ketchup
- ★ Mayo
- ★ Mustard (grainy, Dijon, yellow, Deli, etc.)
- ★ Salsa
- ★ Sambal Oelek
- ★ Sriracha

## SWEETS

- ★ Canned fruits (esp. pineapple and peach)
- ★ Dried fruits
- ★ Fig jam
- ★ Honey
- ★ Maple syrup
- ★ Marmalade



## GRILLED CHEESE FOR THE TIME-PRESSED & STRESSED SURVIVOR

So you were a little overwhelmed by the seemingly endless world of grilled cheese possibility that preceded this, huh? That's OK—fending off the undead all day can be terribly taxing. Here are several different predetermined paths you might take on the road to grilled cheese goodness. Remember, choose wisely . . .

### WHEN THINGS GET MESSY

You just watched your loved one's face get ripped off by a frenzied horde of zombies. That sucks! Why not try:

- ★ Lots of supermelty cheese, like Gouda or Monterey Jack
- ★ A healthy dose of something red, spicy, and saucy, like kimchi
- ★ A handful of dry ramen
- ★ Sourdough bread



### GOING STIR CRAZY

### GOING STIR CRAZY

If you have to stay holed up in here another day, you are going to throw yourself to the undead dogs. Lighten up! Why not try:

- ★ Brie and a touch of Gorgonzola
- ★ Thinly sliced apple
- ★ Toasted and finely chopped almonds, walnuts, or pecans
- ★ Drizzle of honey
- ★ Baguette (trimmed and thinned if needed)

### THE ALL-AMERICAN

There's not much in the fridge.

Boo! Why not try:

- ★ American cheese slices
- ★ Lunch meat or sliced hot dogs
- ★ Ketchup mixed with hot sauce (for dipping)
- ★ White bread



### WHEN THINGS GET MESSY

### THE SUICIDE

You got nicked by biters while boarding up the windows, and you





### THE STRESS EATER

want to do the right thing. Good for you! Why not try:

- ★ Emmental and Gruyère
- ★ Crispy bacon
- ★ Caramelized onion
- ★ Sautéed mushrooms
- ★ Multigrain bread

### THE STRESS EATER

You are utterly overwhelmed by the carnage and sheer weight of staying alive as humanity crumbles around you. Eat away your worries! Why not try:

- ★ Havarti (lots!)
- ★ Leftover *Boy Scout Meatloaf* (page 76)
- ★ A handful of chips
- ★ Rye bread

### LIFE'S A FIESTA

You're just happy to have made it through another day of the zpoc. Arriba! Why not try:

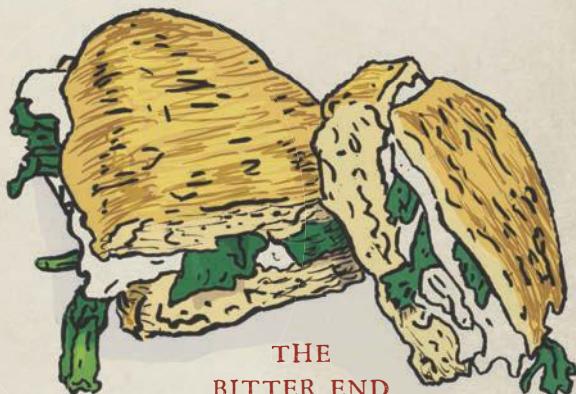
- ★ Monterey Jack and Manchego
- ★ A thin layer of refried beans
- ★ Pickled jalapeños

- ★ Adobo sauce from canned chipotle peppers
- ★ Multigrain bread

### THE BITTER END

The undead are beating down your defenses—they'll be through the door any minute now. Time for the big sleep! Why not try:

- ★ Taleggio and shaved Parm
- ★ Sautéed broccoli rabe
- ★ Roasted garlic
- ★ Chili flakes
- ★ Rustic Italian or French bread (trimmed and thinned down if needed)



THE  
BITTER END

# APOCALYPSE NOWNIES

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When the undead rise and feast on the flesh of the living, it calls for a fudging brownie. This recipe is one of the first ways I would use up perishable ingredients like butter and eggs, and you better believe they are going alongside the last carton of ice cream I will ever eat. Plus, if things seem grim, inducing a food coma via overindulgence seems like a great way to go.

## YIELDS:

12 brownies

## REQUIRES:

1 metal baking dish (preferably 7" x 11"),  
6 qt. Dutch oven with lid, or 9" cast-  
iron skillet  
1 medium pot  
2 large mixing bowls  
Wooden spoon or other cooking utensil

## HEAT SOURCE:

Indirect, *Hibachi Grill* or other *Oven Hack* (page 44)

## TIME:

15 minutes prep  
25–30 minutes minimally attended  
baking time

## INGREDIENTS:

½ c. all-purpose flour, plus more for  
dusting the pan  
½ tsp. baking powder

8 oz. chocolate (unsweetened  
baking preferable, or whatever you  
have on hand)  
6 tbsp. butter, plus extra for greasing  
the pan  
1¼ c. white sugar  
½ tsp. vanilla extract  
¼ tsp. espresso powder (optional, but  
recommended)  
⅛ tsp. salt (omit if using salted butter)  
3 eggs, at room temperature  
½ c. chopped walnuts (optional, but  
recommended)

## METHOD:

- ① Start a cooking fire, either well in advance to generate sufficient embers for 350°F baking (see *Judging Temperature, page 47*) with the *Hibachi Grill*. Grease and flour a baking vessel.
- ② In a mixing bowl, combine the flour and baking powder until well combined. Set aside for now.
- ③ Set a medium pot, half-filled with water, over the cooking fire to use as a double boiler. Add the chocolate and butter to a second mixing bowl and rest it on the pot, stirring occasionally until completely melted and smooth. Remove the bowl from the heat, add the sugar, vanilla, espresso powder, and salt (if needed). Mix until well incorporated and let cool for about 2 minutes.
- ④ Add the eggs, one at a time, whisking until the batter is shiny and smooth after each addition. Add the flour mixture and



whisk again, more gently this time, until the mixture is smooth and shiny. The batter should be fairly thick. Add the walnuts and mix until just combined.

⑤ Transfer the batter into the prepared baking pan and smooth out to edges if needed. Bake for about 20 minutes in a 7- by 11-inch metal baking pan. Check the brownies after about 15 minutes to avoid overbaking—they are ready when the sides are firm and the center has just set (a knife or toothpick in the center comes out relatively clean). Rotate the pan periodically to ensure even cooking, especially if using an *Oven Hack*.

⑥ Consume ravenously after letting the cooked brownies cool for 10–15 minutes.

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**A NOTE ON COOKING TIME:** *Cooking time will vary depending on the heat source and bakeware used. It is really easy to overbake brownies, and dry, overbaked brownies suck, so keep a close eye on them and test for doneness every 2–3 minutes once the sides are set and have pulled away from the pan.*

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**CHOCOLATE SUBSTITUTION:** *You can use any kind of chocolate you have on hand; chocolate chips would even work. If using a sweetened chocolate, cut the sugar down by  $\frac{1}{4}$  cup. If you don't have any chocolate, you can use  $1\frac{1}{2}$  cups cocoa powder plus additional 8 tablespoons butter, margarine, or oil instead.*

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## The Zpoc Food Pyramid & You

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It's TEOTWAWKI, and while healthy eating and fad diets were all the rage pre-zpoc, when fighting off walkers you should eat whatever you can get your grubby survivor hands on. Your body will almost constantly be in survival mode, and calories will become increasingly hard to come by.

That means the good old food pyramid we are all familiar with needs a little updating. Amy Symington, MSc and professor of nutrition at George Brown

College in Toronto, breaks down the new zpoc requirements.

### PROTEIN

With increased levels of activity, protein will be in high demand. Not only is it important for repairing overexerted survivor muscles, but it will also help build more muscle with which to dispatch walkers. Meat-based proteins will help you recover more quickly from physical exertion than



will plant-based proteins, but let's get real—you will not have the option of being picky. So aside from meat, look for protein to come from dairy, eggs, beans, nuts, seeds, and *bugs* (see [page 115](#) for a complete guide to *Apocalyptic Entomophagy*)!

## FAT

Aside from being important for many physiological reasons, like the absorption of certain vitamins (A, D, E, and K, for example) and basic cell function, in the context of 24/7 survival, fat is a hugely important source of energy. Gram for gram, fat has the biggest bang for your caloric buck: 1 gram of fat contains 9 calories, while protein and carbohydrates clock in at 4 calories per gram. I won't even begin to suggest you try to avoid certain types of fat and seek out others. Fat, in any and all its forms, will be an important way to refill the geek-bashing tank.

## CARBOHYDRATES + WATER

The zombie apocalypse is an excellent time to consider carb loading—think pasta, rice, bread, and potatoes. Professional athletes do it to win competitions, while you'll be doing it to win . . . well, your life. If you know you are going on a long trek or an intense scavenging mission, pairing increased carbohydrate intake with proper fluid and electrolyte intake ahead of time will increase performance. Or, in situations where you are constantly on the go or never know when you might need to bolt, a steady stream of carbohydrates coupled with proper hydration will have you ready for action at any time.

## ELECTROLYTES

About those electrolytes: staying hydrated with clean water and maintaining proper electrolyte intake are key to keeping up peak physical performance in the face of undead enemies. Electrolytes include calcium, potassium, magnesium, chloride, and sodium, with potassium and sodium being particularly important. When you are running for dear life, sodium helps water enter your cells, allowing your body to become hydrated more quickly. For sources, think most any packaged or canned foods, and, of course, straight salt. Potassium is extremely important for regulating your heartbeat; good sources including potatoes and white beans, and, if you can get your hands on them, bananas and beet greens.

## IRON

When outrunning the undead, bashing in brains, and boarding up hideouts, your body is going to need more iron. Iron is important during increased physical activity because it transfers oxygen to your body's cells and helps with red blood cell formation. Leafy greens and meat are excellent sources, while more zpoc-accessible foods include legumes, like beans, and dried fruit.

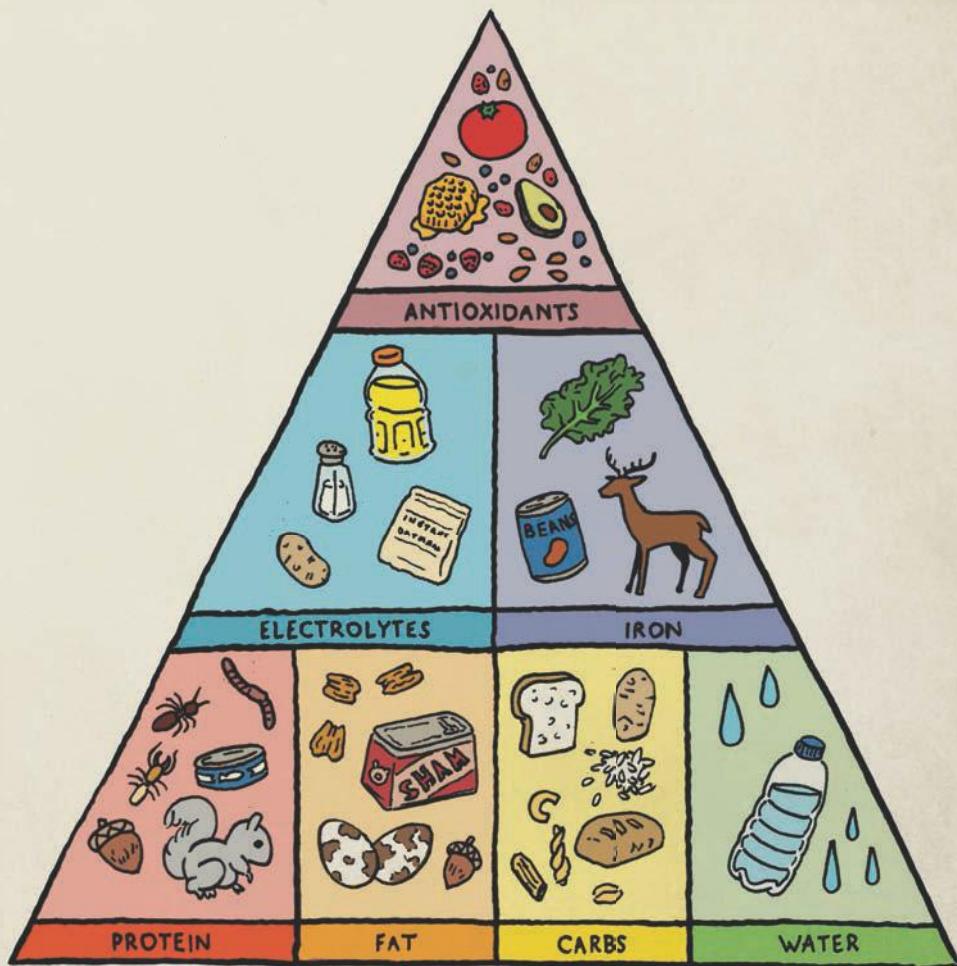
## ANTIOXIDANTS

The more physical activity you perform, the higher the amount of oxidative stress that occurs in the body, which increases free radical activity and the potential for cellular damage or cell death. The antioxidants



beta-carotene and vitamins C and E combat this. Good food sources of these include avocado, almonds, and citrus fruit. But, depending on where you live, access to those may be wiped out with the rest

of civil society, so you might want to load up on vitamin supplements like tablets or powdered drink mixes like Emergen-C, or plan to grow tomatoes, potatoes, cabbage, and dark berries.



THE ZPOC FOOD PYRAMID



# BOY SCOUT MEATLOAF

During the end times, I am sure more than a few of us will be wishing we had been better . . . prepared. While civil society deteriorates under the intense pressure of a zombie pandemic, there will probably be some Boy Scout troop that's bugged out and is enjoying a relaxing cup of wild mint tea in their booby-trap-laden wilderness fortress (is there a merit badge for horde evasion?) while the rest of us run around like chickens whose heads have been bitten off by zeds.

One nifty trick we can take from those industrious and resourceful little Scouts, though, is whipping up a tasty campfire meatloaf. I have called for this recipe to be cooked as individual portions, as they typically do in the Scouts—the smaller portions cook quicker than a large loaf and are easier to serve up among a group of survivors. If you are keen on preserving foil and have an appropriate loaf pan, feel free to use that instead (grease liberally); just increase the cooking time to about 60 minutes.

## YIELDS:

8 x 4-oz. individual meatloaves

## REQUIRES:

Chef's or survival knife and cutting board  
8 pieces of tinfoil, roughly 6" x 8" each  
1 large mixing bowl

## HEAT SOURCE:

Direct, embers, or indirect *Oven Hack*  
(page 44)

## TIME:

15 minutes prep  
30–45 minutes unattended cooking time

## INGREDIENTS:

6 oz. (3/4 c.) *Bugging-In Breadcrumbs*  
(page 94), or store-bought  
2 lb. ground meat (whatever you've got:  
beef, pork, turkey)  
1 medium onion, finely minced  
2 ribs celery, finely minced  
1 carrot, finely minced  
3 cloves garlic, finely minced  
1 tbsp. Worcestershire sauce  
2/3 c. ketchup or BBQ sauce  
1 tsp. hot sauce, or more to taste  
1½ tsp. black pepper  
1½ tsp. cayenne pepper  
1 tsp. dried thyme  
1 egg  
8 slices bacon (optional)

## OPTIONAL ADD-INS:

½ bell pepper, finely minced  
¾ lb. ground sausage, chopped finely (to  
replace ¾ lb. of other ground meat)

## METHOD:

- ① Start a live fire for embers or prep another *Oven Hack* for 375°F baking (see *Judging Temperature*, page 47). Prepare the foil squares for cooking the meatloaves by laying all 8 out on a counter or table so you can easily portion the meat.



- ② Add all the ingredients save for the egg (and bacon, if using) into a large bowl. Mix gently until well combined.
- ③ Add the egg and mix gently until just combined. Within the bowl, roughly divide the meat out into 8 portions.
- ④ Taking a portion of meat into your hands, gently shape it into a log or patty—whatever shape you fancy. If using bacon, wrap a piece around each loaf.
- ⑤ Lay each portion in the middle of a piece of foil. Wash your hands before proceeding.
- ⑥ Pull together the longer sides of the foil to form a tent-like apex, then fold the apex over 3–4 times, making sure to leave some space above the meatloaf so that the air can circulate within the packet.
- ⑦ Do the same thing to the other, shorter, sides of the packet. Repeat for all packets.
- ⑧ If using a cooking fire, make like a Scout and nestle the packets into a bed of embers, checking periodically after

about 20 minutes to make sure the bottoms of the packets aren't scorching, though if using bacon that should help defend against it. Replenish the embers as needed. If using an *Oven Hack*, bake the packets for 30–45 minutes, checking after half an hour.

- ⑨ The meatloaves are done when they feel firm to the touch and are cooked through. Let them cool for a few minutes before tucking in.

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#### NEVER GOING TO FOIL PACK IT IN VEGETABLES:

*A perfect companion to Scout-inspired meatloaf, this foil packet side dish also cooks on glowing embers. Just pack up a mélange of fresh or frozen vegetables, drizzle with oil or slap on a knob of butter, and season to taste. You can experiment with flavors by adding different herbs and spices or a light drizzle of honey, but butter and good 'ol S&P work just fine.*

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## Building a Rocket Stove

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Rocket stoves are out of this world—their design allows them to burn wood with very high efficiency and very little smoke, making them a great option for indoor use. All you need for the design described here is 1 fully intact #10 can (like the large 6-lb. cans of coffee you might find in the bulk section of

a grocery store or wholesaler like Costco), 4 empty standard 8-ounce soup (or bean or whatever) cans, and insulation like damp earth or sand, perlite, or vermiculite.

You can also scale up this basic design (which includes a fuel magazine, combustion chamber, chimney, and insulation/heat



exchanger) to make large stoves capable of heating houses or other dwellings. For more information, check out *Rocket Mass Heaters: Superefficient Woodstoves You Can Build* by Ianto Evans and Leslie Jackson.

## WHAT YOU WILL NEED:

- ★ 1 x #10 can, with top and bottom still intact
- ★ 4 x 8-oz. empty soup cans, with bottoms intact
- ★ Can opener
- ★ Marker
- ★ Nail or some other sharp pointed tool for poking holes
- ★ Metal shears, if available, or a very sharp and sturdy knife
- ★ Heavy work gloves

- ① Using a can opener, remove the top of the #10 can and store or eat the contents—set the top aside for now (be careful, it's sharp! Wear heavy work gloves if available to protect your hands). Hold the top or bottom of a soup can (can A) up to the side of the #10 can, 2 inches from the bottom, and use it to trace a hole onto the can. Use the nail to poke holes along the perimeter of the traced circle—this will make it easier to cut the hole out with the metal shears or a knife. The edges left from these cuts will be very sharp and jagged, so exercise caution!
- ② Repeat the same process on the side of a second soup can (can B), tracing

the bottom of can A 2 inches from the bottom (closed) end of can B, then cutting the traced circle out via the process outlined in step one. It is important that the holes on the #10 can and can B be cut the same distance from the cans' bottoms so the holes will line up. Set the #10 can and can B, now both sporting holes on their sides, aside.

- ③ Grab a third soup can (can C) and, using the can opener, remove the bottom (if it was empty it should now be open ended, otherwise remove both top and bottom, and consume the soup inside). Insert this topless, bottomless can C into the hole you just cut into the side of can B to make sure it fits—it should be snug. Take the two cans apart again, then fit the top- and bottomless can C into the hole in the side of #10 can until it is half inside the #10 can and half out; this horizontal chamber will be the fuel magazine. Take can B and join it with can C *inside* the #10 can, creating an L-shaped tunnel inside the #10 can—can C should sit horizontally and can B should sit vertically.
- ④ Cut off the bottom of the fourth soup can (can D) so that, like can C, it is open on both sides; remove the top and bottom lips that remain as well. Cut can D up its side vertically, from top to bottom. This cut will give you the flexibility to fit the can inside can



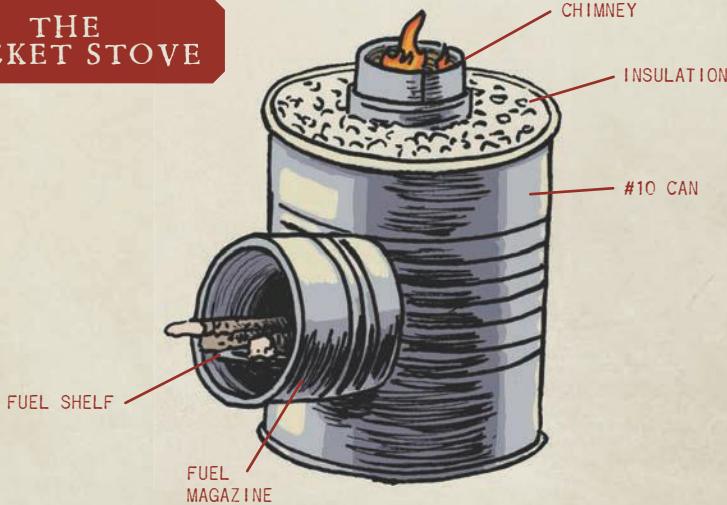
B by overlapping the edges. Slide can D about  $\frac{1}{3}$  of the way into can B until it hits the horizontal can C (the fuel chamber); this will create a chimney that should be about level with the top of the #10 can.

- 5 Cut several  $\frac{1}{2}$ -inch vertical slits into the top of the #10 can to form tabs that will be used to hold down the lid.
- 6 Using can A, trace and cut a hole into the center of the metal lid from the #10 can that you set aside in step one. Fill the empty space around the chimney inside the #10 can with insulation (damp earth, sand, vermiculite, or perlite)—stopping about 1 inch from the top. Then put the #10 can lid on over the chimney and close the whole thing up by folding the tabs you made in step 5 over the top of the lid.

7 Remove the bottom of can A so that it is open on both ends (like cans C and D). Remove the lips on the top and bottom of the can, then cut it vertically up its side and flatten it out. Create a T shape with a fat base by cutting out notches about 1 inch wide from either side of the flattened can. This is your fuel shelf. Slide the bottom of the T-shaped fuel shelf as far as it will go into the end of can C, so that it is sticking out from the #10 can.

8 Load kindling and fuel onto the shelf and light! You can rest a small to medium pot directly on the chimney (which will contain live flames) and keep feeding the fire fuel as needed. Use pot supports for larger and heavy pots. Once the fire is burning the entire stove becomes very hot—do not handle while it is burning and allow it cool for 1–2 hours once the fire is out.

## THE ROCKET STOVE



# THE END OF RA-MAN

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Obscure Brazilian film references aside, it might be the end of man, but it is just the beginning for instant ramen. Ramen is one of those brainless convenience foods that is hella cheap, superfast to prepare, and extremely versatile. With a good cadre of condiments and add-ins, you can remix ramen in any and all stages of the zpoc—from initial outbreak to scavenging the wasteland.

You can gussy up and change the basic soup “recipe” itself (noodles, water, flavor packet) in a *billion* different ways. Add different combinations of vegetables (fresh, canned, or freeze-dried), proteins (ditto), sauces/condiments, and spices. Or, leave the water out of it and use the drained cooked noodles and flavor packets for cold noodle salads. None of that appeal to you yet? How about using the noodles in Vietnamese-style salad wraps?

And when it’s bottom-of-the-barrel-scraping time, you can always munch these bad boys totally uncooked, seasoned, and broken up into a crunchy topping on other foods (like *I Want My Mommy Casserole*, page 91) or straight up snack.

The limits to what you can do and how you can repurpose your run-of-the-mill ramen packets are bounded only by your own ingredient access and creativity. Here’s a quick and tasty bug-in variety making use of the bok choy and scallions

from your *Guerrilla Gardening* efforts (page 60). The fresh ingredients and condiments you’ll still have available at this stage of the zpoc make this the best ramen remix possible—and it all comes together in under 10 minutes.

## YIELDS:

1 Hungry Survivor serving, 2 Regular Joe servings

## REQUIRES:

Chef’s or survival knife and cutting board  
1 medium saucepan

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

## TIME:

5 minutes prep  
5 minutes attended cook time

## INGREDIENTS:

2 c. water  
2 pieces bok choy (from *Guerrilla Gardening*), Swiss chard, or cabbage, rough chopped into bite-sized pieces  
1 package instant ramen (noodles and flavor packet separate)  
1 tsp. chili garlic sauce or sambal oelek  
1 tbsp. fish sauce  
1 tsp. tamari or soy sauce  
1 egg, cracked and whisked  
1 scallion (from *Guerrilla Gardening*), thinly sliced  
1 piece bacon, cooked till crispy and diced (optional, if available)  
Sesame oil, for drizzling



## METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*. Bring water to a boil in a medium saucepan over high heat. Add the bok choy and cook for about 30 seconds before adding the noodles.
- ② After another minute or so add the flavor packet, chili garlic sauce, fish

sauce, and tamari sauce. Once heated through, swirl in the whisked egg and remove from heat.

- ③ Taste and adjust seasoning, adding more tamari or fish sauce as desired. Transfer to a bowl and top with sliced scallion and bacon (if using), then drizzle with just a touch of sesame oil. Enjoy while hot.







EATING OUT  
OF YOUR CUPBOARD





*Alas, it's been days since the initial outbreak started, and those damn zombies are still picking at what's left of the living hors d'oeuvre platter beyond the four walls of your safe and well-fortified domicile. Plus, the power has been out for a while now—all the fresh food is long gone save for some onion, garlic, and a couple of sad potatoes.*

*Welcome to carb country. Unless you have a locavore's personal stash of preserved or canned summer bounty, chances are you're going to be surviving on a lot of starchy fare until it's safe to go outside again.*

*As you will see in the following pages, there is quite a lot that can be done with the common North American pantry staples like flour, dried pastas, rice, canned proteins, beans, vegetables, and fruits. These recipes are simple and easy to prepare (some of them ludicrously so), and focus on very simple ingredients that most people keep kicking around in the cupboard—meaning there is lots of room to add or amend based on your own pantry stash.*



## MENTAL FRUIT LENTIL SOUP

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In the wise words of the famed and politically charged hip-hop duo Dead Prez, “Lentil soup is mental fruit.” Frankly, if you want to keep the walkers away from your own mental fruit, you better do all that you can to keep yourself well-nourished.

Any bean is a healthy bean, and the lentils in this recipe can easily be replaced with cannellini, navy, pinto, garbanzo, or any other bean. Beans offer up a healthy helping of B vitamins that are crucial for the healthy functioning of the nervous, digestive, and immune systems—some of the key differentiators between us and *them*. Plus, beans pack plenty of fiber, ’cause the

last thing you want is to be backed up when fighting off the undead.

The recipe does call for a few fresh ingredients, but they’re ones that don’t require refrigeration, like onion and garlic. Potatoes could also be thrown in the mix. If you have a piece of Parmesan in your fridge pre-zpoc, hold onto the rind—it can sit out unrefrigerated for an extended period and makes a great addition to this soup. Otherwise, the majority of this soup comes from the cupboard.

### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings



## REQUIRES:

Chef's or survival knife and cutting board  
1 large pot  
1 wooden spoon or other cooking utensil  
2 large heat-proof mixing bowls  
1 colander, spider strainer, or slotted spoon  
1 can opener

## HEAT SOURCE:

Direct, *Rocket Stove* (page 77) or other  
*Stovetop Hack* (page 42)

## TIME:

10 minutes prep  
5–10 minutes attended cooking time  
15–30 minutes unattended cooking time

## INGREDIENTS:

1 c. bite-sized pasta (orecchiette,  
macaroni, penne, etc.)  
1–2 tbsp. olive or other vegetable oil  
1 medium onion, minced  
2 cloves garlic, minced  
 $\frac{1}{2}$  tsp. dried thyme or oregano  
6 c. (or 2 qt.) stock: vegetable, chicken,  
or beef (bouillon cubes can be used  
if needed)  
1 x 28-oz. can tomatoes (whole, crushed,  
diced—whatever)  
1 bay leaf  
2 x 15-oz. cans of lentils (or 1 c. dried  
lentils, or other bean you have on hand)  
Parmesan rind (approx. 1" piece, optional)  
1 x 15-oz. can diced carrots  
Red wine or red wine vinegar, to taste  
Salt & pepper, to taste

## METHOD:

- ① Set up a *Rocket Stove* or other *Stovetop Hack*. Bring 6 cups of water to a boil in a large pot. Add two pinches of salt and cook the pasta about 2–3 minutes less than directed by the package. If using bouillon cubes to make the stock, drain the pasta water into a large heat-proof bowl once the pasta is done, then add the cubes and set aside. Otherwise, save the pasta cooking water for another use. Drizzle the cooked pasta with some olive oil and toss in a large mixing bowl to prevent sticking. Set aside.
- ② Add oil to the pot and sauté the onions until softened, 2–3 minutes.
- ③ Add the garlic and thyme/oregano and continue to sauté until aromatic, about 30 seconds.
- ④ Add the stock, canned tomatoes, bay leaf, dried lentils, and Parmesan rind (if using).
- ⑤ Lower the heat by adjusting the amount of fuel in your *Rocket Stove* or elevating the pot with supports. Let the soup simmer for 30–35 minutes if using dried lentils, then add the canned carrots and heat through. Otherwise, simmer for about 20 minutes, then add the canned lentils and carrots and heat through.
- ⑥ Remove the bay leaf and Parmesan rind. Add a good glug of red wine or red wine vinegar, taste, and adjust seasoning if needed.
- ⑦ Serve with a hunk of *No-Knead to Panic Bread* (page 88) if you have it.



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**MAKE IT A RIBOLLITA:** *Ribollita* literally means “reboiled” in Italian, but it also refers to a great dish that uses leftover soup and stale bread (if you end up even finding yourself with leftover No-Knead to Panic Bread (see below). Just reheat the soup over medium heat and submerge a good quantity of sliced bread in the soup until it is completely softened. Using a spoon or potato masher if you have one, mash the bread into the soup until it is sufficiently broken up and the Ribollita is nice and thick. Enjoy.

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## NO-KNEAD TO PANIC BREAD

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It's another day of being completely consumed by the rise of the undead, so why not soothe your troubled soul with the rise of a dead easy and absolutely delicious bread?

Bless Jim Lahey's hopefully-still-living soul for developing this recipe. You may know Lahey, owner of New York's Sullivan Street Bakery, for the no-knead bread revolution he kicked off via food journalist and author Mark Bittman in the early aughts—it took the home-cooking scene by storm and spread almost as quickly as an undead plague. His approach makes use of a long rising time and a very wet dough where gluten molecules are mobile and free to align

themselves naturally (rather than relying on kneading). Translation: it takes a while, but requires no bread-making skill or specialized knowledge and virtually zero work.

The versatility of bread goes without saying. It makes a mean companion to *Mental Fruit Lentil Soup* (page 86), but can be schmeared, topped, dipped, or sandwichized in any number of ways—raid your cupboard and experiment.

This recipe is adapted from “No-Knead Bread” in Jim Lahey’s *My Bread: The Revolutionary No-Work, No-Knead Method*, an excellent book to have on hand for a variety of zpoc-friendly no-knead breads.

### YIELDS:

1 x 1½-lb. loaf, or enough for 2–3 Hungry Survivors

### REQUIRES:

- 1 small bowl
- 1 large mixing bowl
- 1 mixing spoon
- Plastic wrap
- 2 clean cotton kitchen towels or other clean breathable cloths
- 1 large, heavy pot or other oven-proof vessel, with lid

### HEAT SOURCE:

Indirect, *Ammo Can Oven* or other *Oven Hack* (page 44)

### TIME:

- 5 minutes prep
- 14–20 hours mostly unattended rising time
- 45 minutes baking time
- 30 minutes cooling time



## INGREDIENTS:

- 1/4 tsp. active dry yeast
- 1 3/4 c. plus 2 tbsp. warm water
- Pinch of sugar
- 3 c. all-purpose or bread flour, more for dusting
- 1 1/4 tsp. salt

## METHOD:

- ➊ Proof the yeast by mixing it with 2 tablespoons of warm water (not hot!) and a pinch of sugar in a small bowl—it is ready to use when the top is foamy, about 5 minutes.
  - ➋ Mix together the dry ingredients in a large mixing bowl until blended. Add water and any wet flavorings (like honey) and mix until well combined. Your dough will be wet and sticky.
  - ➌ Cover the bowl with plastic wrap if available (you can write the time down on the plastic with a marker), and one of the kitchen towels and pop it in a now nearly useless microwave or other dark spot to rest at least 12 hours, preferably 18 hours. The dough is ready for the next stage when the surface is bubbly.
  - ➍ Lightly sprinkle a work surface with flour and fold your dough out onto it. If using any add-ins (see Variations), sprinkle them on top of the dough now. Sprinkle the dough with a small amount of flour, then fold it over on itself two times. Loosely cover with plastic wrap and let it sit for 15 minutes.
  - ➎ Cover a kitchen towel with a generous amount of flour. Dust your hands with flour, and sprinkle just enough flour on the dough to prevent it from sticking to you, then shape it quickly into a ball. An imperfect zombies-are-breaking-down-my-defenses ball is just fine.
  - ➏ Place your ball seam side down onto the prepared cloth and generously dust the top with more flour. Cover the ball with a second towel and let rest for 2 hours.
  - ➐ Half an hour before the 2-hour mark of the second rise, set up your *Ammo Can Oven* for 450°F (see *Judging Temperature, page 47*), then place the oven-proof dish with the lid inside to preheat.
  - ➑ After the two-hour rise is complete, carefully remove the hot pot or other vessel from the *Ammo Can Oven* and, after removing the lid, plop your ball of dough into it, seam side up.
  - ➒ Bake, with the lid on, for 30 minutes. Remove the lid carefully, then bake another 15–30 minutes until nicely browned. Let cool for about 30 minutes before eating.
- 
- ## VARIATIONS:
- ★ 2 tbsp. honey (added at beginning with water), 1 tbsp. of fennel seeds, 1/2 c. of raisins, and cornmeal for dusting
  - ★ 1 small potato (peeled, diced, sautéed until browned), 1/2 small onion (minced and sautéed until soft), and 1/2 tsp. dried dill
  - ★ 1/2 c. olives, preferably jarred but canned work too
  - ★ 1 medium apple (peeled and diced), 1 tsp. cinnamon combined with 1 tbsp. sugar

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# When the Yeast Runs Dry

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Even if you typically keep yeast on hand, when the zombie apocalypse comes you will eventually run out. Good thing you can harness the power of naturally occurring yeasts by making your own spontaneous wild yeast, or levain.

The yeasts you are looking to harness live on the grain itself and are still present even when the grain is milled into flour. What kind of yeasts are present and how long it will take to cultivate the community to maturity for bread making will vary from batch to batch, cup of flour to cup of flour, place to place. The times given here are guidelines; more important than following the time lines listed, keep an eye out for the visual cues.

Whole wheat and unbleached flours are best for making a levain because they are less processed and therefore have a higher yeast content. For optimal levain growth, the ambient temperature should be no higher than 80°F. Cooler temperatures are OK, but the process will be slower than outlined.

To be sure, bread making with spontaneous yeasts or “levains” is an entire art and science unto itself, but this quick-and-dirty guide to wild levain should have you ready to bake some (*No-Knead to Panic Bread*, page 88) within the first week of the outbreak.

To start, mix equal parts of flour and water in a glass bowl or jar. Two tablespoons of each is a good amount to start with,

though the amounts suggested here can be easily scaled up as long as the same starter to flour to water ratio is maintained. Cover and set aside for 24 hours. On each of the following two days, add the same amount of flour and water. Mix until combined, cover, and set aside.

On the 4th day, transfer  $\frac{1}{4}$  cup of the starter to a new clean glass container and use the remainder in pancakes or another baking application. Add  $\frac{1}{4}$  cup flour and 2 tablespoons water to the fresh container, mix well, then cover. You might start to notice a stink coming from the starter—this is a normal phase your levain might go through as the microbial community evolves. You should also start to see a visible rising then falling of the starter as the critters consume the flour—you’ll see evidence of this on the sides of the container.

Repeat this process again on the 5th day, transferring  $\frac{1}{4}$  cup of starter to a new container and feeding it with  $\frac{1}{4}$  cup flour and 2 tablespoons water. If you start to see a thin layer of liquid on top of your starter when feeding, it means the yeasts are consuming their food quickly and need an increased amount of flour. Start by feeding the starter twice daily. Additionally, increase the proportion of food by cutting the amount of starter in half: When feeding transfer  $\frac{1}{8}$  cup of starter to a fresh container, then add  $\frac{1}{4}$  cup flour and 2 tablespoons water.



By the 6th day or so, the smell should have dissipated. Continue feeding regularly, and when the mixture emits a pleasant yeasty aroma and the flour is consumed (that is, the rise and fall happens) within a matter of hours of feeding, your levain is ready for baking.

To use your levain in bread making, substitute 20% of the flour called for in the recipe (by weight) with the starter. So for example, if the recipe calls for 2 cups (250 g) of unsifted all-purpose flour, you would use  $\frac{1}{4}$  cup (50 g) of levain and  $1\frac{3}{4}$  cups (200 g) of flour. Adjust for next time if you notice your levain is markedly stronger or weaker than needed after making bread.

To maintain the starter, you can now switch to a 1:2:2 ratio of starter to flour to water— $\frac{1}{8}$  cup of starter,  $\frac{1}{2}$  cup of flour, and 4 tablespoons of water. Feed twice daily (every 12 hours) using the same process as above. You may notice your starter needs more food than the 1:2:2 ratio provides. Increase the amount of flour and water incrementally by one part at a time until you find the right proportions.

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**RECOMMENDED READING:** *For more on baking with levain or natural starters, check out Flour Water Salt Yeast: The Fundamentals of Artisan Bread and Pizza by Ken Forkish.*

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## I WANT MY MOMMY CASSEROLE

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This is a zpoc spin on an already nearly completely shelf-stable meal, one that is classic American comfort food spanning decades and generations. It is what some might call “junky,” but in the event of a zombie apocalypse, a hot pile of creamy, salty, fatty goodness topped with crunchy potato chips is A-OK in my book. Go ahead and make it as junky as possible, knowing full well that this meal could potentially be your last. You only live once, right? Oh, wait.

This is also a recipe that is primo for substitutions: No egg noodle? No problem.

Use macaroni or rice. No potato chips? Use crackers or Goldfish or even *Bugging-In Breadcrumbs* (page 94). No tuna? Use canned chicken. No peas? How about green beans, potatoes, or asparagus? And virtually any other creamed soup will work in place of mushroom—except for say, maybe, cream of shrimp (yeah, that’s a thing).

This recipe is safe-house friendly and can easily be adapted to use freeze-dried vegetables and shredded cheese, (Believe it or not, freeze-dried shredded cheese isn’t totally gross—read on to *Cooking in the Well-Stocked Safe House*, page 203, for more!)





### **YIELDS:**

2–3 Hungry Survivor servings, 4 Regular Joe servings

### **REQUIRES:**

Chef's or survival knife and cutting board  
1 large pot  
1 small sauté pan  
1 wooden spoon  
1 colander  
1 large mixing bowl  
1 can opener

1 fork or multi-tool

1 small bowl

1 Dutch oven or another baking vessel (at least 7" x 11")

### **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* (page 42), and indirect, *Dutch Oven* or other *Oven Hack* (page 44)

### **TIME:**

10 minutes prep  
30 minutes baking time



## INGREDIENTS:

1 small onion, minced  
1 x 12-oz. package egg noodles  
2 cans tuna, preferably chunk in oil  
½ can peas  
2 x 14-oz. cans cream of mushroom soup  
(In this case, Campbell's really is the best)  
1 c. breadcrumbs, preferably panko or crushed natural potato chips  
¼ tsp. garlic powder  
½ tsp. ground cumin  
½ tsp. cayenne pepper  
Salt & pepper, to taste

## OPTIONAL ADD-INS:

½ c. dried mushrooms, reconstituted  
2 tbsp. dry sherry

## METHOD:

① Preheat the *Dutch Oven* or other *Oven Hack* for 400°F baking (see *Judging Temperature*, page 47) in addition to building a small fire or other *Stovetop Hack* to boil water. Put a large pot of potable water on to boil. In the meantime, in a small pan sauté the minced onion over medium-high heat until soft and browned.

② Once the water has come to a rolling boil, cook the egg noodles for half the recommended time on the package. If using dried mushrooms, remove some cooking water from the pot to reconstitute them. Drain, then add the noodles to a large mixing bowl, set aside for now.

③ Drain the tuna if it's packed in water; otherwise, drain the oil off onto the

breadcrumbs, then break the tuna up lightly with a fork or multi-tool and add it to the noodles. Add the peas, sautéed onion, mushroom soup, reconstituted dried mushrooms (if using), and dry sherry (if using) to the mixing bowl and toss well. Taste and season with salt (if needed) and pepper. Set aside.

④ In a small bowl, add the breadcrumbs, reserved tuna oil (or the equivalent of another oil, like olive oil), garlic powder, cumin, cayenne, and salt and pepper (to taste). Mix until the breadcrumbs are evenly coated.

⑤ Carefully remove the lid of the preheated Dutch oven and add a light layer of oil using a paper towel or another clean cloth. Transfer the mixed noodles to the Dutch oven or, if using another *Oven Hack*, to a lightly greased baking dish. Sprinkle the bread-crumb mixture evenly over the noodles.

⑥ Bake covered for about 25 minutes, until hot and bubbling.

⑦ Let cool for about 5 minutes before eating. Take a deep breath and allow nostalgic memories of your mom (before she tried to tuck into your abdomen) perk you up while tucking in yourself.

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**EGG NOODLE SUBSTITUTION:** You can also use 16 ounces of macaroni or other small pasta or 1½ cups cooked rice plus additional ½ cup of liquid in place of egg noodles.

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# Like a Fine Wine

According to one of the world's foremost food scientists Harold McGee (in the article "On Cans," appearing in Issue 6: Winter 2013 of *Lucky Peach* magazine), the best-before dates on canned food are often more like just-getting-interesting dates.

Food technicians who develop and test canned foods define shelf life not by how long it takes for the food to become inedible but by how long it takes a trained sensory panel to detect a "just noticeable difference" between a newly manufactured and a stored can. That means many canned foods will be edible long after their expiration dates with only minor effects on texture and flavor.

Some foods actually become *better* with years of aging: Sardines and tuna become wonderfully tender and rich; canned *natural* cheddar cheese (there are artificial and processed versions) becomes deeper in color and flavor and gets that slight crunch characteristic of aged hard cheeses; marmalades darken and intensify; even Spam becomes softer and crisps up better when fried. The higher the quality of the canned good, the better it will age, so splurge on your "cellar" cans.

You can experiment with aging different kinds of foods without having to wait for the zombie apocalypse to see the results—simply increase the storage temperature. According to Harold, every 20°F increase in temperature doubles the aging process. So a 20°F increase in temperature will give you the effects of 1 year of aging time in 6

months, a 40°F increase will give you the effects in 3 months, and so on. You can also gently simmer cans of food at low temperatures to change their flavors and textures. Gently braising a can of tuna in oil gives it a beefier flavor, while braising Spam gives it a softer texture.



## BUGGING-IN BREADCRUMBS

If after a few days of battling with the walkers you find yourself with some stale bread—hamburger/hot dog buns, toast bread, dinner rolls, or leftover *No-Knead to Panic Bread* (page 88)—the easiest and best way to avoid wasting it is by making some breadcrumbs! If the bread is in a plastic bag, remove it and lay it out on a baking tray covered with a clean dish towel. Let the bread dry out completely, then transfer to a resealable food bag and use a weight (a can of food works well) to gently crush it into crumbs.

To brown, drizzle the breadcrumbs with olive oil and sprinkle with salt and pepper, then mix to incorporate evenly. Sauté over a low flame or with another *Stovetop Hack* (page 42), stirring constantly until they are slightly browned. Let cool and put them back into the resealable bag. Use as a topping for *Pasta Aglio e Oh No!* and in *Boy Scout Meatloaf* (page 76).



# PASTA AGLIO E OH NO!

Pasta aglio e olio (pasta with garlic and oil) is, in these pre-zpocalyptic times, a popular snack among Italian bachelors after a night out on the town because of its simplicity and whip-up-ability. It works equally well as a surprisingly tasty dinner after a long day of fighting for survival. Yes, there are lots of ways you can spice this dish up or make it more hearty, but at its core the recipe is 3 ingredients: spaghetti (or any pasta), olive oil, and garlic—ingredients that most survivors will have on hand. The recipe below includes chili flakes for a kick and breadcrumbs (also known as poor man's cheese) for texture.

## YIELDS:

2–3 Hungry Survivor servings, 4 Regular Joe servings

## REQUIRES:

Chef's or survival knife and cutting board

1 large sauté pan or shallow pot

1 large pot

1 wooden spoon

1 colander

1 mug or container for pasta cooking water

1 pair of tongs

## HEAT SOURCE:

Direct, *Rocket Stove* (page 77) or other *Stovetop Hack* (page 42)

## TIME:

5 minutes prep

15 minutes cooking time

## INGREDIENTS:

½ c. olive oil

8 garlic cloves: 6 sliced finely and 2 minced, separated

½–1 tsp. chili flakes

1 lb. package of spaghetti (or any other pasta on hand)

½ c. toasted breadcrumbs, preferably panko or make your own (see *Bugging-In Breadcrumbs*, opposite)

## METHOD:

① Set up a *Rocket Stove* or other *Stovetop Hack*.

② Heat a large sauté pan with olive oil over medium-low heat for 1–2 minutes, then add the sliced garlic and chili flakes. Gently cook until the garlic is nice and translucent, about 5 minutes—be careful not to brown the garlic (a little color is OK)—you can manage heat here with a pot support (see *Heat Control & Pot Supports*, page 44) or by moving the pan on and off the heat. When soft, remove the pan from the heat and set aside.

③ Bring water to a boil in a large pot. When the water is boiling, add salt to your liking (a hearty 3 pinches or so should do). Add the pasta and cook about 1 minute less than directed on the package. When the pasta is done, drain the water, being sure to reserve and set aside about 1 cup.

④ Add the cooked pasta to the pan with the oil, cooked garlic, and chili flakes. Add



the reserved minced garlic. Toss with tongs until thoroughly coated. Add pasta water in quarter cup increments, tasting and adding salt and more oil (if needed) as you go until you get a consistency and flavor you are

happy with. Heat through until pasta is cooked al dente or to your preference.

- ⑤ Serve immediately, sprinkled with toasted breadcrumbs.



## NICE RICE PUDDING

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This is another no-fuss-no-muss comfort food that is a snap to throw together while also snapping zombie necks. Flavor profiles and add-ins

can be easily changed based on whatever you find hiding at the back of your cupboard—I have included here a classic rendition.



## **YIELDS:**

2–3 Hungry Survivor servings, 4 Regular Joe servings

## **REQUIRES:**

1 can opener  
1 large mixing bowl  
1 whisk  
1 rectangular metal baking dish (at least 9" x 13"), lightly greased  
Foil to cover baking dish

## **HEAT SOURCE:**

Indirect, *Hibachi Grill* or other *Oven Hack* (page 44)

## **TIME:**

5 minutes prep  
1 hour baking time, mostly unattended

## **INGREDIENTS:**

1 c. condensed milk, reserving the rest of the can for drizzling  
2 x 12-oz. cans evaporated milk or coconut milk  
1 tsp. vanilla  
2 small cinnamon sticks or 1 tsp. ground cinnamon  
 $\frac{1}{2}$  tsp. ground nutmeg  
Pinch of salt  
 $\frac{1}{3}$  c. uncooked white rice

## **OPTIONAL ADD-INS:**

$\frac{1}{2}$  c. raisins, dried cherries, or dried cranberries  
 $\frac{1}{2}$  c. toasted grated or flaked coconut, for garnish  
 $\frac{1}{2}$  c. roughly chopped toasted nuts, for garnish

## **METHOD:**

- ① Set up the *Hibachi Grill* or other *Oven Hack* for 300°F baking (see *Judging Temperature*, page 47).
- ② Whisk together the condensed milk, evaporated milk, vanilla, spices, and salt in a large mixing bowl.
- ③ Add the rice to a lightly greased baking pan. Sprinkle with dried fruit, if using.
- ④ Add the liquid mixture, stir, and cover the pan with foil.
- ⑤ Bake for 30 minutes, then remove the foil and stir. Replace the foil cover and bake for another 30 minutes, replenishing fuel as needed.
- ⑥ Remove the foil and stir again, checking for doneness. The pudding is done when the rice is plump and tender—it should still be fairly fluid because it will thicken considerably while cooling. If not done by this point, bake an additional 10-minute increments until ready.
- ⑦ Let cool and thicken for another 30 minutes. Before serving, drizzle with condensed milk and sprinkle on toasted coconut or nuts, if using.
- ⑧ Sit back and sigh with contentment at still being alive. Enjoy.

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**CONDENSED MILK SUBSTITUTION:** *If you don't have condensed milk, you can substitute evaporated milk and add  $\frac{1}{4}$  cup sugar when whisking together the wet ingredients.*

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# URBAN HUNTING & FORAGING





*Beyond your now-empty kitchen lies a world of hidden wild edibles—plants, trees, insects, and animals that offer sustenance and nutrition. Pre-zpoc it is a world that most people unknowingly pass by every day, despite the fact that hunting and gathering is how we, as a species, ate for millennia. Large-scale and commercial food production began very recently in the long history of humankind, and yet most of us have known nothing else, save for those who had a home garden or who grew up on a farm.*

*Having a wide variety of food sources is the best way to approach apocalyptic eating. If one source gets cut off or becomes unavailable, you have other options at the ready. So even if you can set up a productive window or rooftop farm (see Window Farming, [page 148](#), and Rooftop Farming, [page 153](#)), knowing what's already available in nature is a very good idea. Plus, supplementing your diet with wild edibles will ensure a better diversity of nutrients.*

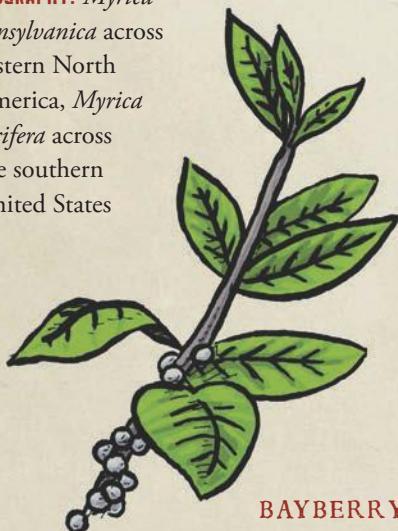
*Hunting and foraging means embracing the low-tech wisdom and tradition of our ancient ancestors and learning how to sustain ourselves with nature and our own wits. A scary task to the n00b survivor, to be sure. The following section will help you to find, identify, and prepare a sampling of the wild edible plants, nuts, and other foraged foods that are widely available across North America, knowledge that will also serve you well should you ever need to venture out into the Wild ([page 251](#)). It will also introduce a few of the edible bugs available, because insects will probably be the easiest protein source to hunt down while you are being hunted down by the walking dead. Finally, we'll dip our toes in the pond of urban hunting, discussing the ubiquitous squirrel and how to hunt it.*

# Foraging at the End of the World

North America is home to over 200 wild plants, many of which you can dig up right in your own neighborhood. While the *Universal Edibility Test* (page 24) will be of huge help for any plant you cannot identify with confidence, it does take about 16 hours to determine if a food is safe to eat. The following section provides a basic reference and identification guide to the common wild foods that appear in the recipes in this section and throughout the book.

## BAYBERRY, NORTHERN (*MYRICA PENNSYLVANICA*) & SOUTHERN (*MYRICA CERIFERA*)

**GEOGRAPHY:** *Myrica pensylvanica* across eastern North America, *Myrica cerifera* across the southern United States



BAYBERRY  
(*MYRICA PENNSYLVANICA*  
& *MYRICA CERIFERA*)

**WHERE TO LOOK:** Sunny or partially shaded sandy habitats, like fields or seashore

**KEY IDENTIFIERS:** Large shrub to small tree; olive-green to grayish leaves that smell of commercial bay leaf when crushed; *M. pensylvanica* leaves oblong, rounded, and mildly toothed at the tip; *M. cerifera* leaves oblong but pointed at the tip; both produce small bluish-green berries in the fall

**CULINARY NOTES:** Harvest the leaves and use as you would commercial bay leaves (soups, sauces, stocks, braising, etc.) fresh or dried, but use twice the quantity. Or you can chop fresh leaves finely and add to rubs for meat. They are most fragrant in winter and early spring.

## COMMON CHICKWEED (*STELLARIA MEDIA*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Sunny open fields, gardens, lawns, meadows

**KEY IDENTIFIERS:** Ground-trailing plant with soft fuzzy stems; smooth spade-shaped and opposite (meaning they grow in pairs) leaves; tiny white flowers at the tip of the leaf stems, with five deeply split petals that appear to be ten

**CULINARY NOTES:** Raw chickweed leaves have a pleasant grassy flavor and a milder spinach flavor when cooked. Common





### COMMON CHICKWEED (*STELLARIA MEDIA*)

chickweed is one of the first greens to appear in spring and can be eaten through the winter if the weather is mild.

**Poisonous Look-Alikes:** Scarlet pimpernel (*Anagallis arvensis*) looks similar to common chickweed, but can be ruled out by its four-sided stem and bright orange-pink blossoms. Spotted surge (*Euphorbia supina*, also known as spotted sandmat) often grows alongside chickweed though they do not look much alike—its milky white sap is a distinctive identifier.

### COMMON SPICEBUSH (*LINDERA BENZOIN*)

**GEOGRAPHY:** Across the eastern United States, Ontario (Canada)

**WHERE TO LOOK:** Damp partially shaded woodlands, moist thickets, swamps, trailsides, riverbanks

**KEY IDENTIFIERS:** Shrubs 5–12 feet in height; gray-brown bark spotted with bumps called lenticel; tiny yellow flower clusters first to appear in spring; bright green oval and pointed leaves that smell lemony when bruised; bright green berries that ripen to bright red in late summer/early fall with a savory and spicy aroma similar to allspice

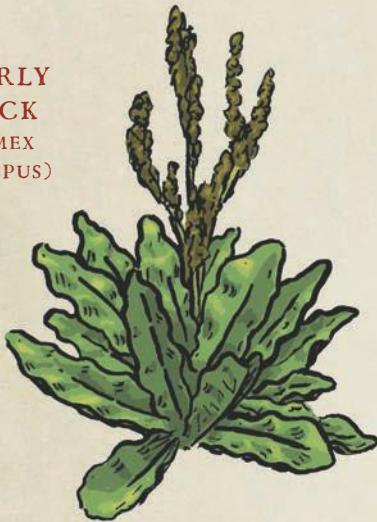
**CULINARY NOTES:** The twigs can be chewed or used to infuse an allspice-like flavor in tea during barren winter months. The leaves make a lovely sun tea, while the fresh berries that appear in late summer and early fall can be finely chopped or mashed and are great in marinades, sauces, and rubs for game meat. The berries are highly perishable and too oily to be dried.



### COMMON SPICEBUSH (*LINDERA BENZOIN*)



**CURLY  
DOCK**  
(*RUMEX  
CRISPUS*)



**CURLY DOCK (RUMEX CRISPUS)**

**GEOGRAPHY:** Throughout the United States and southern Canada

**WHERE TO LOOK:** Sunny and partially shaded disturbed areas like fields, parks, roadsides, stream sides, vacant lots

**KEY IDENTIFIERS:** Large, thick, and hairless individual leaves that ascend the stalk in an alternating pattern with wavy edges and a distinctive red/purple vein that runs down the center; a tall flower stalk that has long clusters of tiny green flowers (summer) or reddish seeds (fall)

**CULINARY NOTES:** Curly dock has a tart, lemony flavor. The young leaves can be eaten raw in spring through summer. Leaves harvested after the plant has flowered will be tough and more bitter, making them better to use in soups and stews. As a plant containing oxalic acid, it should be consumed in moderation.

**DANDELION**  
(*TARAXACUM OFFICINALE*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Lawns, sunny open fields, meadows, parks, trailsides

**KEY IDENTIFIERS:** Tight oblong green flower buds that give way to yellow flower heads; saw-toothed leaves

**CULINARY NOTES:** The immature green flower buds and young leaves of dandelions are some of the first wild edibles of the spring. The familiar yellow flower heads are also edible and can be used after you remove the sepals (small green leaf-like growth under the petals). Both flower buds and heads have a taste reminiscent of carrot. The leaves become increasingly bitter as the plant matures and are best in early spring, though they are still edible through fall, when they will also provide new tender and tasty leaf growth.



**DANDELION**  
(*TARAXACUM OFFICINALE*)





### FIELD GARLIC (*ALLIUM VINEALE*)

## FIELD GARLIC (*ALLIUM VINEALE*)

**GEOGRAPHY:** Most of the eastern half of North America, plus Washington, Oregon, and California

**WHERE TO LOOK:** Lawns, edges of forests, fields, parks

**KEY IDENTIFIERS:** Slender, cylindrical, and hollow chive-like leaves that grow in dense vertical bunches; many tiny white or lilac flowers that emerge from a tight spherical cluster of purple bulblets; a small white bulb below ground; all parts

have a distinctly garlicky aroma when crushed, distinguishing it from poisonous look-alikes

**CULINARY NOTES:** Field garlic is a fairly accessible way to add onion and garlic flavor to foods. Slim spring shoots are the most tender and can be eaten raw or cooked much like chives. As the plant ages, the shoots will become thicker and tougher, but can be slow cooked in soups or stews. The bulbs can be dug up spring through fall, but be conscious not to overharvest in one area (never pick more than 10%) as harvesting the bulb kills the entire plant.

**POISONOUS LOOK-ALIKES:** Other members of the lily family (family Liliaceae) and the common ornamental Star-of-Bethlehem (*Ornithogalum umbellatum*) can be mistaken for field garlic. If any part smells like onion or garlic when bruised, it is edible; the poisonous look-alikes are scentless.

## GINKGO (GINKGO BILOBA)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Widely planted in urban settings, in sunny parts of parks and along residential streets

**KEY IDENTIFIERS:** Distinctive fan-shaped leaves, bright green during the spring and summer, bright yellow in the fall; dusty, round, orange-yellow, and putrid-smelling nut-bearing fruit

**CULINARY NOTES:** Harvest and process the fruits, which odorously ripen in the



## GINKGO (*GINKGO BILOBA*)



mid to late fall, using gloves because it can irritate bare skin. After removing the nuts from the fruits, be sure to rinse well before roasting over medium-low heat (300°F; see *Judging Temperature, page 47*) for half an hour—the nuts must be cooked before consuming. Crack them open after roasting and consume the inner flesh as is or brown in a hot pan for added flavor—they are soft, rich, and slightly chewy with a pleasantly pungent flavor.

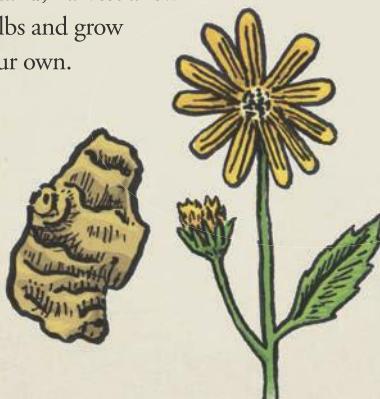
## JERUSALEM ARTICHOKE (*HELIANTHUS TUBEROSUS*)

**GEOGRAPHY:** Throughout most of North America, except Nevada, Arizona, New Mexico (United States), and British Columbia, Alberta (Canada)

**WHERE TO LOOK:** Near streams, ponds, lakes and rivers, also in disturbed areas like roadsides and other pathways

**KEY IDENTIFIERS:** Bright yellow flowers (it's a species of sunflower); slender sparse petals or "rays"; rough sandpaper-like leaves (spear-shaped) and stems; ginger-like tubers underground

**CULINARY NOTES:** The tubers, which taste more like sunflower seeds than artichokes, provide the best nutrition in late fall when the flowers fade after the first frost, though if you can positively identify the plant, they can be harvested anytime. Jerusalem artichokes can be used like any root or tuber—boiled (quickly), roasted, or panfried, etc. Eat sparingly as they cause intestinal upset for some. They are not overly abundant in the wild but are easily cultivated, so if you find a stand, harvest a few bulbs and grow your own.



## JERUSALEM ARTICHOKE (*HELIANTHUS TUBEROSUS*)

## JUNIPER (*JUNIPERUS VIRGINIANA* & *JUNIPERUS OCCIDENTALIS*)

**GEOGRAPHY:** *Juniperus virginiana* is common in eastern and central North



**JUNIPER BERRIES**  
(*JUNIPERUS VIRGINIANA* &  
*JUNIPERUS OCCIDENTALIS*)

America, *Juniperus occidentalis* in the West

**WHERE TO LOOK:** Fields, hedgerows, parks, woodlands

**KEY IDENTIFIERS:** Conical and scaly bright needle-like green leaves with dusty blue "berries" that are technically cones

**CULINARY NOTES:** Juniper berries are typically used as a seasoning and flavor enhancer, so use sparingly. Pick them fall through winter and use fresh, dried, chopped, or powdered to impart a sharp, peppery flavor that pairs very well with the richness of winter game, soups, and stews.

**Poisonous Look-alikes:** Because several small ornamental varieties (*J. sabina* and *J. oxycedrus* among the most common) are poisonous, avoid junipers in urban and suburban areas unless you have made a conclusive positive ID.

**LAMBSQUARTERS**  
(*CHENOPODIUM ALBUM*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Sunny or partially shaded disturbed areas like fields, lawns, parks, and trail- and roadsides

**KEY IDENTIFIERS:** Diamond-shaped wavy toothed leaves that have a mealy white powder on their undersides; dense vertical spikes of small green spherical flowers; large plant that averages 3–5 feet tall and has virtually no odor

**CULINARY NOTES:** The leaves taste very much like their relative, spinach, and can be used in much the same way. The tiny black seeds, replacing the flowers in fall, can be dried and rubbed out of the seed heads then cooked like a grain. They have a nutty flavor and rice-like texture that makes for a good hot cereal.



**LAMBSQUARTERS**  
(*CHENOPODIUM ALBUM*)



## PAWPAW (ASIMINA TRILOBA)

**GEOGRAPHY:** Eastern North America

**WHERE TO LOOK:** On trees growing in rich soil—along streams, rivers, and other waterways, forests, and other verdant places

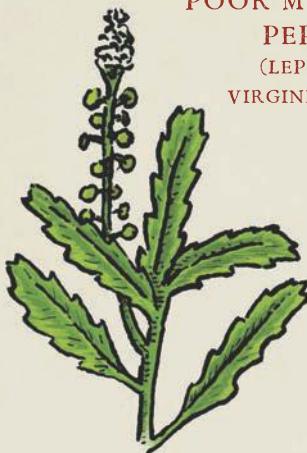
**KEY IDENTIFIERS:** Small clusters of velvety maroon flowers with six petals; long oblong leaves that smell of bell peppers when bruised; green mango-shaped fruits growing in clusters of 2–9 fruits

**CULINARY NOTES:** These native North American anomalies are as close as you are likely to get to tropical fruit come the zpoc, but their range has been steadily shrinking and they are increasingly uncommon. Use the fruits, which ripen late summer to early fall, as you would mango or pineapple—their flavor is a pleasant combination of both.



PAWPAW FRUIT AND  
TREE LEAVES (ASIMINA TRILOBA)

## POOR MAN'S PEPPER (LEPIDIUM VIRGINICUM)



## POOR MAN'S PEPPER (LEPIDIUM VIRGINICUM)

**GEOGRAPHY:** Most of North America except Alberta, Manitoba, and Saskatchewan (Canada)

**WHERE TO LOOK:** Sunny spots like lawns, gardens, fields, meadows, and roadsides

**KEY IDENTIFIERS:** Long lance-shaped toothed leaves; bottlebrush-shaped flower stalks with tiny four-petaled white flowers in the summer; small, flat, circular seedpods with tiny yellow-brown seeds in the fall

**CULINARY NOTES:** The leaves and flowers are best eaten raw and can be harvested spring through summer. They provide a spicy and peppery zip to any food they are added to. The seedpods that appear in the fall can be mashed with vinegar and used as a mustard.



## QUEEN ANNE'S LACE (*DAUCUS CAROTA*)

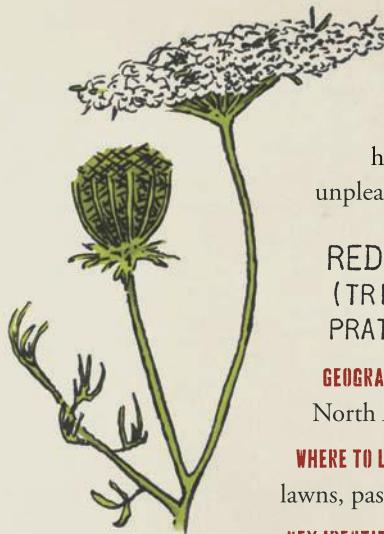
**GEOGRAPHY:** Throughout most of North America

**WHERE TO LOOK:** Open fields and meadows, roadsides, pastures, lawns

**KEY IDENTIFIERS:** A hairy solid stalk with visible red veins, never growing more than 3–6 feet; a small root that smells of carrot; mature flower heads are flat and made up of densely packed tiny white flowers, often with one purplish-red flower in the center; the green flower head closes up into the shape of a cup as it matures and bears fruit/seed

**CULINARY NOTES:** The small and tender roots of young Queen Anne's lace can be used as a carrot substitute, while the leaves can be used in place of parsley. Once the plant has flowered, remove the green or reddish fruits that appear in late summer and early fall from their "cups." You can eat them fresh or dry them for an intense carrot flavor that can be used in place of seasonings like caraway or celery seed.

**Poisonous Look-Alikes:** Hemlock is a poisonous look-alike though it can be identified most readily by its smooth and hollow stem that is splotched with purple marks, the powdery white flower



QUEEN  
ANNE'S LACE  
(*DAUCUS CAROTA*)

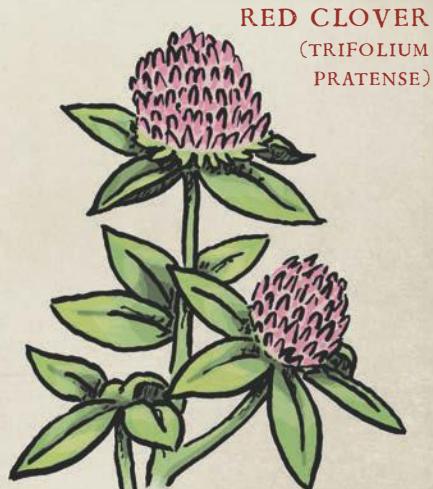
stems with much sparser white flower heads, and a bitter, unpleasant-smelling root.

## RED CLOVER (*TRIFOLIUM PRATENSE*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Sunny meadows, lawns, pastures, parks, roadsides

**KEY IDENTIFIERS:** Rounded flower heads made up of many tiny, narrow, two-sided magenta flowers; low-growing, slender, and branching stalks; familiar three-parted leaflets growing from the end of the leaf stalk



RED CLOVER  
(*TRIFOLIUM PRATENSE*)



**CULINARY NOTES:** Clover's fresh pink flowers have a flavor reminiscent of snap peas and are best plucked in late spring, though they can be harvested through fall. Eat them raw or lightly cooked, or dry them out for use in tea during the winter—they are a source of calcium, vitamin C, magnesium, phosphorus, and niacin.

### SHEEP SORREL (*RUMEX ACETOSELLA*)



### SHEEP SORREL (*RUMEX ACETOSELLA*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Sunny lawns, fields, meadows, parks, roadsides

**KEY IDENTIFIERS:** Mature leaves that look like a sheep's head (hence the name), with an arrow base (the "face") and two pointy outer "ear" lobes; leaves have a strong lemon flavor

**CULINARY NOTES:** Sheep sorrel is a good all-purpose green with a tart and lemony

flavor that withstands cooking. The basal leaves (those that grow at the bottom of the stem) are generally better tasting than higher stem leaves and best in early spring. As a plant containing oxalic acid, it should be consumed in moderation.

### SMOOTH SUMAC (*RHUS GLABRA*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Full and partial sunlight in fields, thickets, wood, trail- and roadsides, stream banks, seashores

**KEY IDENTIFIERS:** Dense stands of small trees; stout twigs that exude a white sap when broken; shiny, long, and feather-shaped alternate leaves; large vertical clusters of

### SMOOTH SUMAC BERRIES (*RHUS GLABRA*)



tiny green flowers in the summer months that give way to vertical clusters of red berries in mid to late fall

**CULINARY NOTES:** The berries can be juiced as a replacement for lemon juice or other acids in cooking, or submerged in water and mashed gently to steep for a refreshing lemonade-type drink. You can also dry the berries and grind them as needed for seasoning.

**POISONOUS LOOK-ALIKES:** Poison sumac (*Toxicodendron vernix*) is a small shrub or tree that looks quite like the edible varieties of sumac; however, this poisonous variety can easily be ruled out by its drooping white (not upright red) fruit clusters and more densely packed leaflets.

## STINGING NETTLE (*URTICA DIOICA*)

**GEOGRAPHY:** Throughout North America

**WHERE TO LOOK:** Fields, open woodlands, trails and roadsides, thickets, riversides

**KEY IDENTIFIERS:** Oval-shaped toothed dark green leaves that grow from a ribbed four-sided stem; long slender drooping clusters of tiny green flowers; the entire plant is visibly covered with tiny stinging hairs

**CULINARY NOTES:** Stinging nettles are aptly named and should be harvested with gloves, though the tiny stinging hairs are destroyed with cooking. Leaves from smaller plants that have not yet flowered will be most tender, though the leaves can

## STINGING NETTLE (*URTICA DIOICA*)



be plucked throughout the spring and summer. They will give a robust herbal flavor to any dish.

## WOOD SORREL (FAMILY OXALIDACEAE)

**GEOGRAPHY:** Throughout the United States and Canada, except the far north

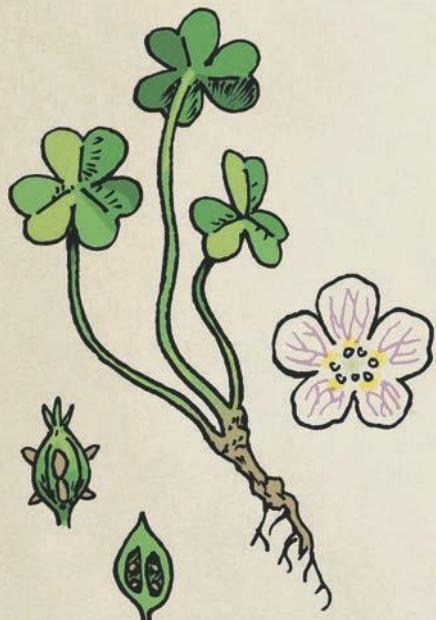
**WHERE TO LOOK:** Sunny or partially shaded lawns, fields, meadows, roadsides, parks, disturbed habitats

**KEY IDENTIFIERS:** Three-lobed leaves similar to clover though distinctly heart shaped; small banana-shaped seedpods with tiny reddish seeds within; star-shaped five-petaled flowers ranging in color from white (pictured on the next page) to yellow to pink

**CULINARY NOTES:** The leaves, flowers, and seedpods can be eaten raw or cooked



spring through summer, and will add a strong sour and lemony flavor to dishes. The root bulbs are also edible, have a mildly sweet flavor, and can be cooked like any root or tuber. As a plant containing oxalic acid, it should be consumed in moderation.



**WOOD SORREL**  
(FAMILY OXALIDACEAE)

**RECOMMENDED READING:** *For more on urban foraging, check out Foraged Flavor: Finding Fabulous Ingredients in Your Backyard or Farmer's Market by Tama Matsuoka Wong with Eddy Leroux.*

## WEEDS THAT FEED SPRING SALAD

---

This salad boasts a variety of edible greens most people pre-zpoc scorned as common weeds to be eradicated from pristine lawns rather than nibbled on for sustenance and nutrition.

The good thing about weeds is that they are robust, and so the plants in this recipe should be easy enough to find in backyard gardens run amok or parks, forests, and other wilder green spaces. (Refer to *Foraging at the End of the World*, page 102, for a full guide to finding and identifying the plants used here.)

These greens are among the first wild edibles of the season, and their young leaves are most tender and tasty in early spring.

### YIELDS:

2 Hungry Survivor servings, 3–4 Regular Joe servings

### REQUIRES:

Colander  
Large mixing bowl  
Small plastic container with lid

### TIME:

10 minutes

### INGREDIENTS:

1 c. foraged red clover flowers, roughly chopped if desired



2 c. foraged sheep sorrel leaves  
2 c. foraged common chickweed leaves  
2 c. foraged dandelion leaves  
2–3 wild garlic bulbs, finely sliced  
3 tbsp. oil, preferably olive  
1 tbsp. vinegar, preferably apple cider or white wine  
½ tsp. Dijon mustard (optional, if available)  
Salt & pepper, to taste

#### METHOD:

① Rinse all greens individually in a colander, if available. If you have access to a

salad spinner or even paper towel, use it to remove excess water. Add the greens, save for a handful of the wild garlic, to a large mixing bowl.

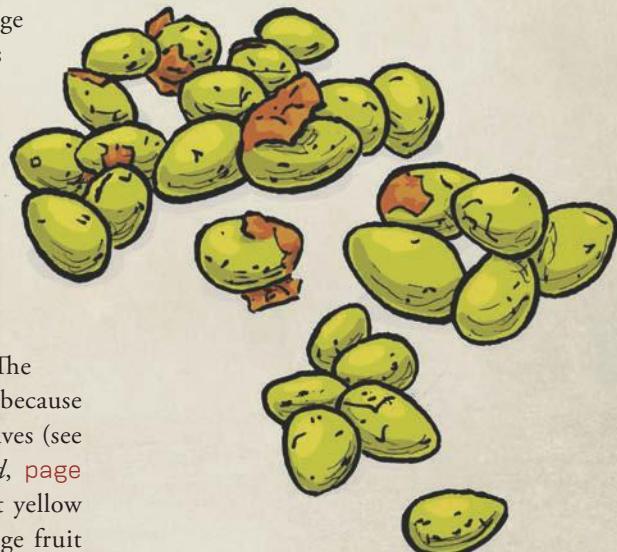
② In a small plastic container with lid, add the olive oil, vinegar, Dijon (if using), remaining sliced wild garlic, and salt and pepper. Shake vigorously.

③ Pour about  $\frac{2}{3}$  of the dressing over the greens, then toss to coat. Taste the salad, adjust salt and pepper if needed, and add the remaining dressing if desired. Serve immediately.

## GOING GINKGO NUTS

---

Ginkgo nuts are found inside the putrid-smelling yellowish-orange fruit of the ginkgo tree. The trees are Asian in origin and date back hundreds of millions of years, but you can find them in many towns and cities across North America—they have become popular plants in landscaping because of their robustness in the face of harsh urban and suburban landscapes. The trees are extremely recognizable because of their distinctive fan-shaped leaves (see *Foraging at the End of the World*, page 102) that turn a beautiful bright yellow in the fall, when the round orange fruit of the Ginkgo ripens and drops, and you



will almost certainly smell them before you see them.

If you plan to harvest from a particular tree and there is little shuffling foot traffic in the area, lay out a tarp or sheet to catch the fruits as they fall. Remove the nuts from the fruits wearing gloves, as its mildly toxic flesh tends to irritate skin. Be sure to cook the nuts for at least 30 minutes before eating; when not fully cooked, the nuts can be mildly toxic as well. And don't be put off by this less-than-enticing preamble; the finished product is rich, slightly chewy, and punchy, a truly great snack or addition to other cooked dishes.

#### **YIELDS:**

About 1 lb. of nuts

#### **REQUIRES:**

Gloves

Baking sheet or cast-iron pan

#### **HEAT SOURCE:**

Indirect, *Hibachi Grill* or other *Oven Hack* ([page 44](#))

#### **TIME:**

30 minutes prep

30–45 minutes roasting time

#### **INGREDIENTS:**

2 lb. gingko fruit

Salt, to taste, if available

#### **METHOD:**

① Set up *Hibachi Grill* or other *Oven Hack* for roasting at about 400°F (see *Judging Temperature*, [page 47](#)). Using gloves (and a face covering of some kind if the smell really bugs you), remove the nuts from the fruit.

② Wash the nuts thoroughly in several changes of water (if you have it, but you must rinse the nuts at least once before roasting).

③ Put the nuts onto the baking tray and roast for 30 minutes, stirring every 10 minutes or so, until nicely browned and the shells start to crack.

④ Remove from heat and let sit until cool enough to handle. Using the flat side of a knife or some other tool, crush the nuts to crack the shells, if they are not already cracked. Remove the shell and the brown papery skin. Cooked nuts are shiny and slightly translucent and should be either jade green or amber-yellow.

⑤ Season to taste with salt and snack on them as is or pan roast them until brown for added flavor. Use in any recipe where a punchy pungent flavor would work. Consume them promptly or store them in a cold spot (if available).



# Apocalyptic Entomophagy

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Entomophagy is the practice of eating bugs. You can dress it up in whatever fancy science-y words you like, come TEOTFW—The End of the Free World—chances are grubs will have to find their way into your gob if you don't want to starve to death.

Here in North America, and in much of Europe, we turn our noses up at the thought of chowing down on insects or other creepy crawlers. Worldwide, however, it's estimated that approximately 2 billion people consume bugs as part of their regular diets, many doing so with gusto. The truth is, bugs can be delicious.

In fact, the idea of turning “minilivestock” into a viable food source for human beings is becoming a thing pre-zpoc, with international support from organizations like the United Nations. In a 2013 report the United Nations highly encouraged entomophagy as a way to fill the hunger gap, more efficiently use resources, and reduce the environmental impacts of protein-for-food production: Not only are bugs nutritious and often quite comparable (gram for gram) protein-wise to traditional livestock, but they are also far more efficient at converting feed to edible protein and do not have many of the negative environmental impacts associated with factory farming, like methane emissions. Bug protein is also a great source of iron, zinc, copper, and vitamin B1 (thiamine).

Many bugs are edible. In fact, over 1,400 species have been catalogued as such. The following pages cover a small selection of edible insects that most any North American should be able to find during the zpoc, but know that beyond these specific recommendations there is a whole world of edible insects out there. Not sure if you can eat that creepy crawlly squatting in your safe house? Zack Lemann, entomologist and entomophagy enthusiast at the Audubon Nature Institute in New Orleans, advises that when you come across a bug that might make a good meal, remember: if they are brightly colored, excessively stinky or hairy, or are known disease carriers (mosquitoes, flies, etc.), stay away. Also remember when eating any questionable bug for the first time to follow the steps in the *Universal Edibility Test* ([page 24](#)) and ingest only small quantities to begin with.

If circumstances allow, Zack also says it is good practice to purge your insects before you eat them—withholding food or feeding them choice vegetation for a day before consuming them will allow any potentially harmful or unsavory food to pass through their systems. While lots of insects taste very good raw, cooking is an extra level of protection you can provide yourself from parasites and other potentially harmful bacteria. Rinsing before cooking is also a good idea if you have the water to spare.



Before cooking, you can remove wings, legs, and heads—which tend to be the toughest parts anyway—to make them a little less, how shall we say, creepy.

If freezing temperatures are available to you (say if you are breeding mealworms or crickets during the winter), the most humane way to kill any insect is by freezing them, whereby they fall asleep and then die. If not, pinching off the head or squeezing the thorax is another quick way to dispatch most any bug.

Like animal protein, bugs should generally be eaten promptly after killing. You can do pretty much anything with insects—sauté, fry, bake, blanch, or grill them. The best cooking methods for individual species will vary; for example, Zack recommends roasting as a great cooking method for already crunchy bugs like grasshoppers and crickets; it will make their exoskeletons, legs, and wings drier and easier to chew. Sautéing is great for bee larvae/pupae while dragonflies take on a lovely crustaceous flavor when fried. And don't forget the seasoning! Most bugs benefit from a little flavor enhancement, even just a little salt or some simple herbs and spices.

---

**TIP:** *Harvesting certain insects, specifically those who dwell in colonies (termites, bees, and ants), will in all likelihood seriously damage or even kill the colony from which you harvest. These are actions that are recommended for survival situations only and should not be attempted pre-zpoc.*

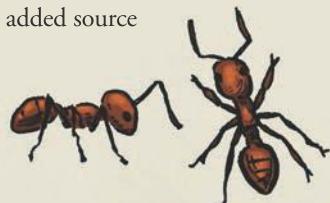
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## ANTS (FAMILY FORMICIDAE)

**SEASON:** All seasons, but easiest to catch during the spring, summer, and fall

Ants are a colony insect. During the summer months, entry points to their nests are easy to find by looking for mounds of dirt with small holes in them and ants typically filing in and out. Their nests can be quite deep underground, especially during cold winter months—as deep at 15 feet.

Most varieties of ants are edible, and all should be cooked—ants contain a lot of formic acid, which gives them a urine-like odor and vinegary flavor, but cooking decreases this by breaking the acid down. Since they are typically pretty small, ants can be snuck into most dishes and baked goods as an added source of protein. They also make for a good roasted snacking food, seasoned with salt and some dried dill.



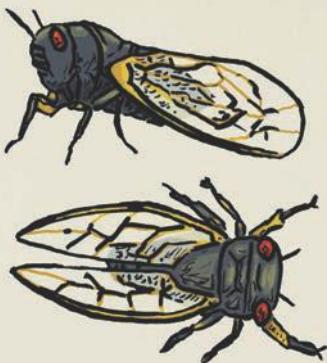
## ANTS (FAMILY FORMICIDAE)

## CICADAS (FAMILY CICADIDAE)

**SEASON:** Late spring and early summer

Periodical cicadas (*Magicicada*) have gained notoriety in the eastern part of North America for their extremely long development phase—the nymphs live underground feeding on the fluids of deciduous





## CICADAS (FAMILY CICADIDAE)

forest tree roots for anywhere from 13 to 17 years—making their emergence an event eagerly awaited by bug enthusiasts.

All variety of cicadas are edible. Cicadas are arthropods—invertebrates that have exoskeletons, segmented bodies, and jointed appendages. Sharing that classification with shrimp, lobster, and crabs, along with grasshoppers and crickets, cicadas are often referred to as the “shrimp of the land” for their taste, appearance, and seasonal abundance. In fact, anyone with shellfish allergies should avoid arthropods.

When cicadas emerge from their underground nurseries in the spring, they molt, shedding their nymph skins to become adults. After molting they climb onto to tree trunks to avoid predators while their adult exoskeletons harden—this is the best time to harvest as they are easily spotted and still reasonably soft. Early mornings are the best time to look for freshly molted nymphs.

Giving cicadas a quick dip in boiling water is a good way to prepare them

## THREE WAYS TO CATCH INSECTS

Here are some useful makeshift tools and techniques for catching bugs:

### 1. A Beating Sheet:

A beating sheet is a wooden frame covered with fabric that is held up to catch insects beaten out of trees or other tall branches or vegetation. You can cobble together a square or rectangular wooden frame from scrap wood pieces or an old picture frame, then stretch any clean material over the top to make a taut, flat surface. Attach an old broom handle or some other long stick so that you can lift the sheet high into the branches. Don’t forget a beating stick too!

### 2. A Sweeping Net

A sweeping net is a short-handled net used to sweep tall grasses or bushes for bugs. If you can find some fine-mesh netting, it is an ideal material for this; however, even a repurposed white T-shirt could be used.

### 3. Hand Searching

Lots of bugs can be found on the undersides of leaves, on the trunks of trees, and under dead logs—that is to say, lots of bugs can be found and captured with nothing more than your hands.



for cooking and a sure fire way to kill off any bacteria they might have picked up underground. According to Mike Raupp, professor of entomology at the University of Maryland and author of *Cicada-Licious*, boiling will bring out the shrimp flavor of cicadas; eaten au naturel they have a nutty and buttery flavor. Their legs and wings can be quite tough to chew and are best removed before eating or cooking. Their bodies can be roasted, sautéed, grilled, or baked as you please.

## CRICKETS (FAMILY GRYLLIDAE)

**SEASON:** Late spring to early summer for nymphs, mid-summer to late fall for adults

Those lovely Jiminy chirpers are an abundant summertime insect, quite inoffensive, and probably the most widely eaten insect worldwide.

By day crickets hide in dark, moist, and secluded areas, like cracks or drains, and emerge at night to feed, which is when you should try to catch them. Native North Americans would often dig a pit in the middle of a field known to have abundant crickets, then encircle the field and

slowly drive the crickets toward the pit. When the pit was full, they would light a fire to roast them. You can also catch crickets



CRICKET  
(FAMILY GRYLLIDAE)

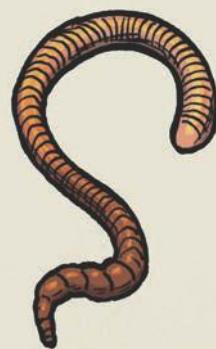
with a common insect-nabbing method called “sweeping,” by using broad upward strokes in tall grass or shrubbery with a short-handled net (see page 117).

You might prefer to remove the legs and antennae of adult crickets before consuming. Crickets are especially good roasted.

## EARTHWORMS (LUMBRICUS TERRESTRIS)

**SEASON:** All seasons, but they’re easiest to catch during the spring, summer, and fall

“You may not know how to hunt, trap, or fish, but certainly you know how to dig.” Wise words from Green Deane, who writes an excellent foraging blog called *Eat The Weeds* ([eattheweds.com](http://eattheweds.com)). And the ability to dig is especially handy when it comes to collecting earth-



EARTHWORM  
(LUMBRICUS  
TERRESTRIS)

worms. There may be over 1.5 million earthworms in an acre of dirt, meaning these are probably the most easily found and caught insects in this guide.

Earthworms are 82% protein and a source of omega-3 fatty acids. They can be eaten in their entirety, meaning no waste. They can also be prepared any number of ways: They add a meaty bite when cooked and added directly to dishes, or a less



in-your-face addition to soups or other dishes when dried and powdered. Just be sure to purge them for a day before eating. Depending on your tastes, you might also want to boil them before consuming to remove mucus, much like with snails. Boil, changing the water every few minutes or so, until the water remains clear.



**GRASSHOPPER**  
(SUBORDER CAELIFERA)

## GRASSHOPPERS (SUBORDER CAELIFERA)

**SEASON:** Early spring to early summer for nymphs; early summer to early fall for adults

Grasshoppers look much like crickets, though larger, and tend to have similar habitats and life cycles. Several species are poisonous, so avoid multicolored hoppers and go for the solid green, brown, or black bugs.

You can catch grasshoppers in the same ways you would crickets: by using a large field pit or sweeping with nets. Both grasshoppers and crickets can be bred; however, they are very picky eaters and unless you know and have a constant supply of their foliage of choice, it can become difficult to sustain them, especially over winter.

## DON'T SAY ROACHES!

There's no doubt cockroaches will make it through (and even flourish during) a zombie apocalypse, but regardless you won't find them in this guide. For most urban dwellers the thought of eating cockroaches is absolutely sickening. Cockroaches do live, breed, and eat in some very unsavory conditions (see *You Are What You Eat* on [page 132](#)), but they're actually a relatively clean insect that devotes a significant time to grooming. That said, if you are able to find other edible insects or protein sources during the zpoc, you'd probably be better off for the simple fact that in actuality cockroaches don't really taste all that good. They have glands that give them a strong and musty flavor.



Like crickets, you can remove their wings, legs, and antennae before consuming. In mature adults the exoskeleton is quite tough; roasting will make it crunchy, or a strong acidic marinade will soften it.

## HONEY BEES (GENUS APIS)

**SEASON:** Early spring to early fall for larvae and pupae; all seasons for adults

While bees do occasionally build hives in the wild, the vast majority of North America's bee population is kept at commercial and amateur apiaries—the best place to find them when hunting and foraging.





## HONEY BEES (GENUS APIS)

However, they are quite edible!

Not only are bees pretty tasty, they are generally nutritious. The most sought after are the baby bees (larvae and pupae) tucked away in the honeycomb of a colony. They are prized for their sweet flavor and succulent texture. In Japanese culture, the larvae and pupae are called Hachinoko and are considered a delicacy. They contain about 15% protein and very high amounts of vitamins A and D (so high that regular consumption is not recommended). The adults are also edible (don't forget to remove those stingers!) and contain about 18% protein, the amino acids lysine and methionine, an assortment of B vitamins, and good quantities of C and E vitamins.

The biggest challenge in harvesting bees is the bees themselves; they will ferociously protect their hive. See *Burgling a Beehive* (on page 127) for more information on preparing to engage with bees and finding the larvae and pupae or "brood." Once in, you can harvest full frames of brood from

When they do build a colony in the wild, they are typically found deep in tree trunks. Because of their immense value to the local ecosystem as pollinators and as honey-producers, I would be inclined to keep bees (see *Apiculture*, page 126) rather than eat them.

commercial hive structures or cut out pieces of comb containing the brood from wild hives. Melt the comb gently in hot water, freeing the bees from the wax. Rinse them well with hot water to remove the remaining wax and then prepare as desired.

## MEALWORMS (TENEBRIO MOLITOR)

**SEASON:** Spring through fall

Mealworms are the larvae of the darkling beetle. They are about an inch long and typically a whitish-yellow color, though they darken as they age. Once hatched, mealworms will remain in the larval stage for about 3 months, at which point they will transform into pupae for about a week and then hatch into adult beetles. The larval stage can be prolonged if they are kept at cool temperatures.

As soon as you are safely able to get out of your house or apartment, scout out the pet stores in your area—many carry mealworms as food for lizards and other pets.



## MEALWORMS & ADULT DARKLING BEETLE (TENEBRIO MOLITOR)



The larvae (mealworms) are what you want to eat, but take whatever you find and you can breed them for food (see *Raising Mealworms*, page 125). They will be harder to find in the wild, though parks, woodlands, and other green spaces are your best bet. Look in dark, moist, and hidden spots like under logs or leaf piles.

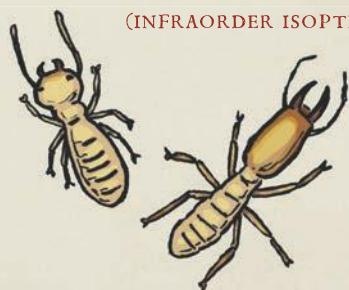
Mealworms are tender and have a generally thin skin (though it thickens and darkens with maturity). They can be incorporated into virtually any dish, like *Mealworm Fried Rice* (page 122), but work especially well with potatoes and are popular in cookies too.

harvesting them from a colony be sure to wear long sleeves, pants, and gloves; the soldier termites have strong, well-developed jaws and bite hard.

Termite colonies contain three castes—workers, soldiers, and reproductives—that all look slightly different. All castes of termite are edible, though most eaters consider the winged reproductives the most tasty. Termites contain all the essential amino acids that humans require, and their flavor can be described as “minty wood.” They are small enough to be used as mix-ins in baked goods like breads or cookies or roasted and kept as a trail snack.

## TERMITES

(INFRAORDER ISOPTERA)



### TERMITES

(INFRAORDER ISOPTERA)

**SEASON:** All seasons

In nature, termites provide the valuable function of breaking down wood and returning its nutrients to the soil. They do not hibernate, though their activity in winter slows. You can generally find them by hacking into large pieces of dead or rotting wood in forests and parks. When

## ROASTED CRICKETS

By far the most popular way to serve crickets, enjoyed the world over from Bangkok to Vancouver, is roasted. Roasting crickets, grasshoppers, and other insects with a tough exoskeleton makes them crispy and crunchy and much more pleasantly munched on. Roasted crickets take on a mildly shrimp-like flavor. In fact, if you have a shellfish allergy, you should not eat crickets, grasshoppers, or cicadas. They are members of the arthropod family, along with shrimp, crab, and lobster.

This recipe is easily adapted to whatever spices and seasonings you have on hand, so experiment with different flavors.



**YIELDS:**

2 c. roasted crickets

**REQUIRES:**

Baking sheet, lined with parchment or  
lightly greased  
Large mixing bowl

**HEAT SOURCE:**

Indirect, *Ammo Can Oven* or other *Oven Hack* (page 44)

**TIME:**

5 minutes prep  
30 minutes bake time

**INGREDIENTS:**

2 c. crickets  
1–2 tbsp. oil  
2 tbsp. cornmeal  
1 tsp. cayenne or chili powder

Salt & pepper, to taste

1 tbsp. or a couple of takeout packets soy  
sauce (if available)

**METHOD:**

- ① Set up a *Ammo Can Oven* or other *Oven Hack* for 350°F roasting (see *Judging Temperature*, page 47). Remove the large hind legs, wings, antennae, or whole head from each cricket, if desired.
- ② Toss the crickets in the oil until evenly coated. Sprinkle with the cornmeal, cayenne, salt and pepper and soy sauce (if using), then toss again.
- ③ Spread the crickets out on a baking sheet and bake for 20–30 minutes until golden brown and crispy. Note that some crickets will change color when cooking.
- ④ Let cool completely before eating.

## MEALWORM FRIED RICE

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Once the pandemonium of the initial outbreak has passed, if you can get your grubby survivor hands on some mealworms (not actually worms, but the larvae of the darkling beetle), you will have a no-fuss-no-muss source of protein that is also a great starter bug for anyone not accustomed to entomophagy (eating insects; see *Apocalyptic Entomophagy*, page 115). They are also dead easy to raise yourself (see *Raising Mealworms*, page 125).

As far as the yuck factor goes, mealworms are pretty harmless looking: no pointy legs or searching antennae, bulging eyes or stingers. Mealworms have a springy texture and slightly nutty flavor, making them good for a variety of applications—roasting, sweet and savory baking, or stewing.

Though the recipe here uses rice, you can use any shelf-stable grain. Generally, leftover rice works quite well for fried





rice, though you can also cook your rice fresh and air-dry it a little on a baking sheet. Use whatever foraged ingredients you have available in your area, though lambsquarters work very well here (see *Foraging at the End of the World*, page 102). What makes this recipe especially good is the garlic and ginger, which can be grown successfully when *Rooftop Farming*

(page 153) or *Window Farming* (page 148). Mince both the garlic and ginger on the large side and cook them slowly until they are medium brown and crunchy.

This recipe is adapted from Jean-Georges' "Ginger Fried Rice," published in Mark Bittman's January 2010 *New York Times* article "The Minimalist: Fried Rice, Dressed Simply."



## **YIELDS:**

2–3 Hungry Survivor servings, 4 Regular Joe servings

## **REQUIRES:**

Chef's or survival knife and cutting board  
Medium saucepan or pot with lid  
Baking sheet  
Large cast-iron skillet or other frying pan  
Slotted spoon  
Small bowl

## **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* (page 42)

## **TIME:**

10 minutes prep  
30 minutes cooking time

## **INGREDIENTS:**

4 c. potable water  
2 c. white rice or other grain  
2 c. foraged or farmed mealworms  
½ c. vegetable or olive oil plus a splash for cooking rice  
3 cloves farmed or foraged field garlic (2 tbsp. minced)  
¼ c. minced farmed ginger  
1 c. minced farmed onion  
2 c. foraged lambsquarters, washed and roughly chopped  
2 tsp. sesame oil (if available)  
4 tsp. soy sauce (if available; try to scavenge some takeout packets)  
Salt & pepper, to taste

## **METHOD:**

① Start a cooking fire or set up other *Stovetop Hack*. In a medium saucepan or other pot, bring the water and rice, along with a splash of oil and pinch of salt, to a boil. Once it reaches a boil, cover, adjust flame to low heat, and let the rice cook undisturbed for about 15 minutes (if using white rice; adjust cooking time for other types of rice or grains).

② In the meantime, rinse the mealworms well with fresh potable water. Set aside. Once the rice is cooked, let it sit covered for about 5 minutes off the heat, then spread on a baking sheet to dry out. Set aside.

③ Heat ¼ cup of vegetable oil in a skillet or other frying pan over medium-high heat. Add the garlic and ginger, then cook, stirring frequently, until it is nicely browned and crispy—do not brown over excessively high heat; rather, brown the garlic and ginger gently for about 5 minutes. Remove the ginger and garlic with the slotted spoon, draining off as much fat as you can, and add to a small bowl. Sprinkle with salt and toss, then set aside.

④ Reduce the heat to low and add more oil if needed. Cook the onions until they are soft and translucent without taking on much color. Adjust the flame again to medium-high heat and add the mealworms. Cook until they begin to brown, stirring frequently, for about 5 minutes. Add the lambsquarters and cook until the greens are wilted and tender, another 3 minutes.



⑤ Add the rice to the pan and mix to distribute the onion, mealworms, and lambsquarters evenly. Add salt and pepper to taste. Continue mixing until the rice is heated through. Taste

and adjust seasoning if needed. Divide the rice among bowls, then top with a drizzle of sesame oil, soy sauce, and the fried garlic and ginger. Serve immediately.

## Raising Mealworms

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Mealworms are an excellent choice for “mini-livestock” during the zpoc because they are a no-fuss-no-muss insect requiring little in the way of specialized equipment—a few empty Tupperware containers perforated with air holes and some simple bedding is all they need to be comfortable. Most importantly, they are not picky eaters—they can consume most any form of vegetation you give them (though they prefer fruits and vegetables).

### WHAT YOU WILL NEED:

- ★ Mealworms, pupae, or mature darkling beetles
- ★ 4 plastic storage containers including lids
- ★ 6–8 c. oats, bran, or cornmeal
- ★ Moist vegetable or fruit like carrots, potatoes, apple (canned works well too)

As soon as you are safely able to do so, head straight to your local pet store(s) to try to find live mealworms; they are often carried as food for lizards and other insect-loving pets. Another good place to try is bait shops (if they exist near you),

where you might also score some earthworms while you are at it.

By the time you get to them, the mealworms may have morphed into pupae or beetles, or even perished from lack of food and water—though larvae and adult beetles will consume pupae if hungry, meaning they might be able to sustain themselves for a little while without care. In the wild they are harder to find, but look in dark, moist, and hidden places like under logs or piles of rotting leaves.

Once you have mealworms, pupae, or beetles (or a combination thereof), you will need to separate each type out into their own container. Each container should include some bedding (oatmeal, cornmeal, or bran work well if you can get them) and a slice of a moist fruit or vegetable, like apple or potato. A piece of canned fruit will also work, but it will mold more quickly and need to be replaced more frequently. Replenish food as needed. Each lid should be punctured with air holes before covering your critters.

If you store the mealworms at cool (fridge-like) temperatures, it will delay their development and thereby increase



the window of optimal edibility, but you should warm them to ambient temperature before feeding. Be sure to check them at least once a day to pick out any critters that have moved on to the next stage of development and put them into a pupae-dedicated or a beetle-dedicated box; otherwise, cannibalism of pupae will become a problem in the larvae and pupae bins. Remove dead or malformed bugs as well.

After about 2 weeks, swap out the bedding in the mature beetles' bin as they should have begun laying eggs in it and may start to eat them. Give the beetles fresh bedding and store the used bedding in its own container. The eggs hidden in the bedding will hatch, and the mealworms can be moved back to the appropriate bin; the bedding can be reused if it is still reasonably clean.

## Apiculture

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During the zombie apocalypse you can be sure I would beeline it for the honey. Not only is apiculture (the keeping of honey bees) extremely important to our ecosystems and thus post-apocalyptic food growing efforts (its true importance only too recently realized with the increasing incidence of Colony Collapse Disorder), but the honey they produce is, to use a trendy and overused word, a “superfood.”

Because of its natural hydrogen peroxide content, honey has been shown to speed up the healing of wounds when applied topically (no, not zombie bites, sorry); it is full of polyphenols, a type of antioxidant that promotes heart health and protects against cancer; and it can aid in digestion. Made up almost entirely of easily digested sugars, honey is an excellent source of energy. Plus bee larvae and pupae are excellent protein

sources. That's serious bang for your survivor buck!

Unfortunately, the chances of happening upon a hive while scavenging the wasteland or bugging out in the wilderness are low. According to Chase Emmons, Chief Beekeeper at the Brooklyn Grange (in “Apocalypse Q&A: Beekeeper” by Jamie Feldmar, appearing in Issue 6: Winter 2013 of *Lucky Peach* magazine), wild honeybees are rare. They are not indigenous to North America and were brought here by the Pilgrims from Europe in the 17th century. The majority of our honeybee population is maintained and supported at managed apiaries, or bee farms, across the continent. You might find feral colonies living in drywall, ceilings, or in hollowed-out trees deep in the woods. But my recommendation would be to actively seek out local bee



farms from which you can adopt a hive or harvest honey, and I suggest highlighting them on the survival map in your *Flee with Flavor Bug-Out Bag* (page 5).

## HOW BEES WORK

Bees are fascinating little creatures—far more interesting than I can communicate in this modest survival guide—and if you are going to attempt to harvest honey or keep bees during the zpoc, there are a few basics worth knowing.

There are three types of bees in a hive—the workers, the drones, and the queen. There is only one queen per hive, and without a queen, a colony will quickly perish. The hive is almost continuously replenishing its population, and the queen is the only one who can lay the fertilized eggs that produce workers or new queens. A virgin queen mates once soon after birth and can then lay fertilized eggs for the rest of her life—approximately 3,000 eggs per day for upward of four years! When the queen senses that drones are needed, she will lay unfertilized eggs. (Yes! Drones come from unfertilized eggs!) Workers can also lay unfertilized eggs, but it is rare and only done when the queen is unproductive or has died, and they sense egg production has stopped. You can pick out the queen by looking for her noticeably longer torso and legs.

The vast majority of a colony's population is made up of female worker bees that do all of the maintenance for the hive—build comb, feed the drones and queen, care for the young, and gather the ingredients needed to make honey. During the

summer they literally work themselves to death and typically live a mere 30 days.

Drones are the only males in the colony and are typically few in number—their only function is to mate with a virgin queen. Since they are useless during the winter months when the colony is hibernating, the colony will eject the drones as the weather gets colder.

At commercial or hobby apiaries, bees are typically housed in large wooden boxes. Inside these boxes are individual wooden frames that provide a surface on which the bees build their wax comb. These boxes are usually divided into two distinct areas. The “deep hive body” is typically 1–2 large boxes that form the base of the hive. The deep hive is a hub of activity: Here the queen will lay eggs, and the workers will care for the young (called “brood”) and store sealed (or “capped”) honey for the winter. Eggs are laid in individual cells of the honeycomb, and the brood will go through several stages of development there until they emerge as adult bees. You can differentiate brood from capped honey by the more prominent and bumpier caps on the brood cells. Above the deep hive body are smaller boxes, called “supers,” where excess honey is stored and from which beekeepers generally harvest.

## BURGLING A BEEHIVE

Especially during the initial stages of the zpoc, you'll probably be doing more burgling than beekeeping—you will (respectfully!) steal that liquid gold but won't really have much time to hang around



and take care of the colony.

Whether you're dealing with wild or farmed bees, burgling a beehive is a tricky business. Before making like a bear and diving into a hive, you should consider protection, how you will handle the bees (with care!), and how to go about harvesting the honey so as to minimally impact the colony.

## **Protection**

Bees will want to protect their precious hive, honey, and queen from your advances. And you will want to protect your flesh from their stingers. Cover every square inch of flesh with layers, layers, and layers. Thick denim or leather makes a great base! Additionally, you will need to cover your face. You can improvise a beekeeper's hat with a wide brimmed hat and some fine-mesh netting if you can scavenge those items; otherwise, Chase suggests trying a 5-gallon bucket. Cut out a hole for your face, then cover the hole with a fine-mesh screen (from a door or window). Attach fabric on the inside that will drape down to seal off your shoulder area.

## **Bee Handling**

Smoke is a traditional method used in handling bees. The (false) threat of fire triggers their natural instinct to prepare to flee the hive, and they will become temporarily distracted by gorging themselves on honey to tide them over until they can find and set up a new home. Once they are stuffed, it becomes harder for them to flex the muscles needed to sting. Smoke also destroys the

pheromones bees use to communicate, creating mass panic and confusion in addition to hampering their retaliation efforts.

While smoke is an effective way of handling bees, it does cause stress and damage to the colony and should be used in moderation. If you decide to become a zpoc beekeeper, you can limit the amount of smoke you need (if any) by visiting the hive on bright sunny days when most workers will be out foraging.

To create a bee-friendly smoker, burn leaves, paper, and small dry twigs in a container with a small opening that lets out streams of smoke (a soda can, for example). When first approaching the hive, stream some smoke into the entrance to set the bees on alert, then waft it over sections of comb or hive as needed.

## **Harvesting**

Accessing the honey in a way that has minimum impact on the hive itself should be your main goal—that way you can leave the colony intact, the bees will continue to provide their important ecological services, and you can be provided with a steady supply of food.

This will be hard if you're harvesting from a wild colony living deep in a tree or in drywall—chances are you will need to destroy the colony to get at the honey. This should only be done in extreme survival situations! It's far easier to harvest from a hobbyist's or commercial beekeeper's farm. You can remove the rectangular frames housing the comb from the hive



structure one at a time, though you will need something to pry them loose with—a shoehorn-like metal tool (called a hive tool) should be kicking around any bee farm.

Look for capped honey to harvest; the caps are semitranslucent and more flush with the comb than the capped brood (that you may also want to harvest), which has bumpy and more prominent caps. Remove the frames you want, smoking the bees as needed, and shaking them back onto the comb you are leaving behind. This is important because you want to avoid displacing the queen. If the hive is healthy, however, the bees should be able to raise a new queen if anything happens to her during your raid. When done with each frame, carefully replace it, smoking the area beforehand to clear the area of any bees that might get crushed.

Be kind to the bees and don't overharvest! Remember, their honey is their only natural source of food.

## BEEKEEPING BASICS

If you find yourself at a swell *Long-Haul Bug-Out Location* ([page 306](#)) or other semipermanent location, it will most certainly be worth your while to hunt down an existing hobby or commercial farm and adopt a colony.

Bees have got it bad—keeping a hive healthy and productive is tough enough during the best of pre-zpoc times, let alone when modern medicines and equipment will be off the table. But generally speaking, your hive will require little from you and

is fairly self-sufficient. Here's a rundown of the basics.

Regular inspections are common practice when the hive is operating full throttle during spring and summer months. To ensure your hive is healthy, look for the queen herself or, since the queen can be hard to spot, evidence that the queen is alive and well and reproducing. Single tiny rice-shaped eggs at the very bottom of open cells and compact area(s) with bumpy capped brood or bright white larvae are good indicators.

Fall and spring inspections are particularly important in temperate climates as opportunities for you to help the colony transition through seasons. Though the bees "cluster" to keep themselves warm throughout the winter, as the weather cools you can provide them with a little extra protection from wind and snow. A loose-fitting tarp might work well—just be sure to allow ample air circulation or you will suffocate the colony. You may also need to feed the colony to help them get through the winter if they do not have enough honey on hand. The average colony living in colder northern states needs at least 8 frames of capped honey to get through the winter (keep that in mind when harvesting!). The colony may also need feeding in the spring if they've exhausted their honey supplies.

In either case, feed your bees a water and sugar solution called "syrup." Different concentrations will stimulate different behaviors in the hive, but a 1:2 ratio of sugar to water is a good all-purpose syrup. The



simplest way to deliver the syrup is through a thick resealable bag punctured with tiny needle holes and laid hole-side up in an empty super.

## ROASTED TREE RAT

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Squirrels get a bad rap. Their unfortunate nickname “tree rat” is indicative of how most people view them—as just another pesky disease-carrying rodent. I prefer the more romantic view of them as peaceful denizens of the forest, integral to the varied ecosystems they call home. These creatures, easily found across North America, also make for good table fare. (See *Bagging Squirrel*, opposite, for tips on hunting squirrel with both firearms and traps/snares.)

Unlike other edible urban animals, such as raccoon and pigeon, tree squirrels are far more picky about their diet and tend to eat almost exclusively vegetation and nuts—meaning they clock in far lower on the ick scale than other more opportunistic eaters (see *You Are What You Eat*, page 132). Though squirrels are known to carry fibromatosis in the South and babesiosis in California, the meat can always be made safe to eat with proper cooking (read: well-done).

Author of *The Scavenger’s Guide to Haute Cuisine* and host of the Sportsman Channel’s show *MeatEater*, Steven Rinella

grew up in Michigan and hunted/ate squirrel often as a kid. Pre-zpoc when he feels a little nostalgic for squirrel meat, he sets up traps in his Brooklyn backyard to catch them. He suggests a simple preparation of roasting the animal in quarters, and I have amended his recipe to incorporate wild seasonings that can be used in place of lemon juice and thyme.

This recipe is adapted from Steve Rinella’s “Lemon-Thyme Squirrel,” published in August 2012 in the *New York Post*.

### YIELDS:

1 Hungry Survivor serving, 2 Regular Joe servings

### REQUIRES:

Chef’s or survival knife and cutting board  
1 medium mixing bowl  
Fork or other implement for poking small holes into the meat  
Skewers or nonpoisonous hardwood tree branches

### HEAT SOURCE:

Direct, open flame, or indirect, *Oven Hack* (page 44)

### TIME:

10 minutes prep  
20 minutes cook time

### INGREDIENTS:

1 squirrel (field dressed, see *Basic Field Dressing & Butchery*, page 37)  
½ c. oil, preferably olive  
Salt & pepper, to taste



A good handful of foraged lambsquarters, poor man's pepper, and wood sorrel, roughly chopped

### METHOD:

- ① Before starting, make sure your knives are sharpened and ready to go. If you have large shears available, you can snip the squirrel; otherwise, use your knife to cut the animal in half lengthwise. Then cut each half into quarters by cutting just below the rib cage. With a fork, pierce each piece of meat several times and add to a medium mixing bowl.
- ② Wash your hands thoroughly and have all remaining ingredients close at hand. For

seasoning, keep one hand clean (i.e., handle the meat with only one hand). Sprinkle salt and pepper liberally over the meat with your clean hand, using the other hand to rub it in. Do the same for the oil and herbs.

- ③ Let the meat sit for about 20 minutes while you wash up your hands and tools (sanitizing them in boiling water if proper soap is not available), and prepare the fire. Roast over an open flame or using another *Oven Hack* set for 400°F (see *Judging Temperature*, page 47) for 15 minutes or so, turning frequently to ensure even cooking. The meat should be completely cooked through to an internal temperature of 160°F before eating.

## Bagging Squirrel

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The upside to hunting and trapping squirrel during the zpoc? For most urban and suburban zpoc survivors, they will be abundant and easily found. The downside is that most species tend to be quite skittish, making them tough to actively hunt, especially if you've never hunted before. Another knock against tree rats is their size—even the fattest squirrel will typically feed only one person. The average gray weighs in at about a pound and offers a mere 1,000 calories. When operating in survival mode, you would need to catch at least three per day per person to meet the minimum recommended survival-mode daily intake of 3,000 calories—though the

fatter and lazier fox squirrels can come in at a hefty 3 pounds!

Given their skittishness and low calorie count, squirrels are best considered a good supplemental food source that you spend little time and energy trying to obtain, which means making traps and snares (see *Tracking, Hunting, & Trapping*, page 25) is the most energy- and time-efficient way to go about catching them.

Here's a rundown for bagging the ubiquitous tree rat:

### WHERE THEY LIVE

Tree squirrels (as opposed to their less common ground-dwelling and flying



brethren) can be found in woodlands, parks, and other green spaces throughout the United States and southern Canada. The majority of tree squirrels you're likely to come across will be various species of gray, fox, and red, and each has slightly different geographies, appearances, and habits. Generally speaking, though, tree squirrels are at home among the branches, nesting within trees when possible or building large leafy nests in the crotches of branches.

## HUNTING TIPS

Find trees that bear nuts, and you will almost certainly find squirrels (excluding harsher climates of the far north). But squirrels actually have quite a varied diet that can be drawn on for baiting them: tree buds, maple bark, wild fruits, corn and grain when available, bulbs, roots, and the occasional insect or bird's egg. Often trees that host squirrels will have fine scratches in their bark and cuttings (nutshells, pieces of vegetation, etc.) at their bases.

When using traps, leave them open with food inside for several days so the squirrel can become accustomed to feeding there. If hunting with a firearm, the most effective method is planting—find a tree that hosts them and plant yourself at said tree before dawn. Clear a 2-foot radius around you to avoid any rustling—you must remain utterly still and quiet.

## EATING TIPS

Squirrels have tough hides that are difficult to remove, so skin them while they

## YOU ARE WHAT YOU EAT

While the thought of eating a dirty urban tree rat might sound less than appetizing, did you know that squirrels are actually quite picky eaters? It's true—squirrels, rabbits, many birds, and other urban dwellers have particular (usually vegetarian) diets and aren't nearly as opportunistic as scavengers like roaches, rats, pigeons, seagulls, opossums, and raccoons, who will likely be feasting on the rotting remains of civil society come the undead uprising.

Meat eaters like raccoon and opossum are known carrion (i.e., dead carcass) lovers, meaning they may have ingested some of the less than savory flesh strewn about, and may even turn themselves into zeds (see *Zombie Animals: Yea or Neigh?*, page 262). Food sources will also, in part, dictate how hygienic a particular animal or insect is—roaches rolling through old drainage pipes and garbage piles are probably not the cleanest bug you could put in your mouth (despite the fact that they are fastidious groomers).

Where an animal or insect is living, what it eats, and where that food is coming from are three criteria to guide your food choices in urban/suburban settings during the initial outbreak. These concerns become a little less icky as you move out *Into the Wild* (page 251).



are still warm (minutes after dispatching them). If the hide is difficult to pull off by hand, you can cut away the fur, just be sure to keep the blade pointed away from the meat so as to avoid getting fur onto the meat underneath. The tougher the hide is to remove, the older the animal, which can be helpful in determining whether you should quick cook or braise them. After cleaning and dressing them, if you are in

need of a quick on-the-run type meal, it's easiest to roast them whole though they can be broken down into smaller parts (see *Basic Field Dressing & Butchery*, [page 37](#)). Flavor will depend on their diet (squirrels living in primarily coniferous forests tend to have a more woodsy and pronounced flavor, for example), but generally their flavor is fairly neutral and often likened to wild rabbit.







# INITIAL OUTBREAK AGRICULTURE: GROWING INCOGNITO



*The pandemonium of the initial outbreak has subsided, you've come to terms with the hordes of reanimated corpses roaming the streets, and perhaps you've even developed some level of proficiency at hunting and gathering in your backyard or local park (see Urban Hunting & Foraging, [page 99](#)). At this point, growing some fresh grub is definitely a good idea—vitamins, minerals, and all that jazz—but also the monotony of a diet composed mainly of packaged and processed foods would probably be enough for this survivor to throw herself to the skels. Plus having a diversity of food sources at arm's length is just smart zpoc survival—if a horde rolls through your hood, you might not be able to get out of the house for a few days to hunt, forage, or scavenge.*

*Unless you're part of that fortunate Atlanta survivor group and find yourself in the relative seclusion of Hershel's productive farm (à la season two) or at a verdant prison compound (à la season 3), chances are you are going to need to grow your fresh foods zpoc-style: that is, wherever and however you can. The basic skills and principles in the following pages will provide an invaluable foundation—helpful while bugging in during the initial outbreak and for creating a more permanent long-term food system for The Long Haul ([page 303](#)).*

*You may have a lovely patch of green that you think you could convert into a garden, but it's likely not a great idea to hang a "Hey! Survivors here and we have food!" sign out on your lawn, for three main reasons: One, zombies. Yeah. Those shuffling bastards will tramp all over your cherry tomatoes and just ruin the peas. Two, raiders. Those nomadic malefactors will be only too happy to liberate you of your fresh food, and anything else you might have*

*hanging around your safe house. Three, you can't just plant an edible garden in any old patch of green space. As you will see in this section, gardening, like survival, is something of an art.*

*You might be thinking, well couldn't I just plant my garden at some suitable secondary location and travel back and forth? You could, but I personally wouldn't risk it. Let me remind you of the zombies. If you could get your hands on all the supplies to set up a garden that would include a super secure perimeter to keep out zeds and any living intruders, maybe it would work. But you can eliminate that risk altogether—whether outdoors or in—by growing incognito.*

*This is best done in containers, inside the safe house with Window Farming (page 148) or outside via Rooftop Farming (page 153). You can also do some neat Guerrilla Gardening (page 60) to grow fresh food from vegetable scraps when TSHTF. Last, if you want a really quick-and-(actually quite clean)-dirty method for some fresh nutrients, sprouting (Sprouting for Food, page 143) is definitely the way to go.*

*Be forewarned, the learning curve for growing food is steep. Many preppers will argue that waiting until TSHTF to start trying to grow your own food is a sure way to starve to death. Start your food-growing adventures pre-zpoc, and your thumb will be almost as green as a zombie's when the time comes to put these skills to work.*



# Seeds!

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The most essential supply for any kind of DIY food growing is, of course, seeds. The absolute *best* move would be to stow a good selection of seeds away pre-zpoc—they are easily obtainable and inexpensive. When stored in cool, dark, and dry conditions (the fridge works great), many seeds will remain viable (able to produce a plant) for anywhere from 2 to 5 years, requiring infrequent rotation.

Most commercial seeds are “hybrid”—they might yield plants that are more productive or hardier than their nonhybrid cousins, but the resulting plant will not produce a reliable seed for saving and planting the next year. Seeds saved from hybrid plants may not germinate at all, and if they do, they rarely “grow true” or produce plants that are identical to the parent. Nonhybrid (also known as “heritage”) seeds will allow you to harvest seeds generation after generation and will yield plants that are almost identical to the parent—making them especially important to have around for your long-term survival.



## CROSS-POLLINATION

Cross-pollination (cross breeding between plants of the same family) can also hamper your seed-saving efforts. See *Rooftop Farming* (page 153) for more.

Several gardening and preparedness suppliers offer “seed vaults”; waterproof and storage-friendly containers of nonhybrid seeds, usually including fast-growing varieties of fruits and vegetables. A seed vault is a crucial addition to any well-stocked safe house, and a scaled-down mini vault is an excellent item to tuck into your bug-out bag. Seeds can also come in handy for quick and easy sprouting (see *Sprouting for Food*, page 143)!

If you do not have seeds stowed away when the zombie apocalypse knocks on your door, you should make getting them a top priority for your first scavenging mission. Get to the closest hardware or garden supply store and search the entire place top to bottom (see tips on *Scavenging*, page 21)—but be aware that others will probably have done the same. You may also want to search storage sheds, backyard or community gardens, elementary and high schools that may have gardening programs, and even abandoned homes to try to get your hands on seeds. Depending on the season, grocery stores or other commercial spaces may have seeds as well, though these highly targeted destinations will probably already be cleaned out.

Once you’ve started growing your own food, the key to a continued and sustainable food supply is saving seeds from one



## SCAVENGING FOR SEEDS

If the local garden supply stores have been tapped out, why not try:

- // Community or school gardens
- // Department stores
- // Fruit and vegetable farms
- // Grocery stores
- // Hardware stores
- // Residential garages and backyard sheds



season, or one crop, to the next. When saving seeds, you should know if the plant is an annual, biennial, or perennial, information that is typically called out on seed packets. Annuals die off (and therefore need to be replanted) every year, but produce seeds before they do. Biennials (like parsley, carrots, and broccoli) require two growing seasons to complete their life cycle and will usually only produce seeds in their second year, after which they die. Perennials will continue on from year to year, typically producing seeds annually.

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**RECOMMENDED READING:** *For more on seed saving, check out Seedswap: The Gardener's Guide to Saving & Swapping Seeds by Josie Jeffrey or Seed to Seed: Seed Saving & Growing Techniques for Vegetable Gardeners by Suzanne Ashworth, David Cavagnaro, and Kent Whealy.*

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## HARVESTING SEEDS

In order for plants to produce seeds, they must first go through a cycle of flowering and pollination. For some plants, lettuce and basil, for example, this process can negatively affect the flavor or texture of its edibles. For others, the seeds *are* the edibles, as with peas and beans.

You will find a plant's seeds in close proximity to its flower(s), though the seeds may be produced inside pods (i.e., beans, peas, lettuce, and broccoli), fruits (in the botanical sense, meaning any fleshy outgrowth containing seeds), or berries, rather than the flower head itself.

Seeds go through a growth and maturation process of their own and must mature before you can successfully dry and store them. It's best to allow seeds to mature on the plant until just before they are ready to be dispersed: Look for browning pods and flower heads, and fruits/berries that are starting to shrivel and rot. Be sure to harvest from several of your healthiest and most productive plants to maintain a healthy and diverse gene pool. After harvesting, allow pods and seed heads to dry out completely in a cool, shaded place before cleaning and saving.

## PROCESSING SEEDS

The method for cleaning and saving seeds depends on whether they are considered dry or wet seeds.

"Dry" seeds (i.e., seeds that develop in pods, seed heads, or drier fleshed fruits like peppers and many variety of squash) can be picked out of fruits or crumbled out



of dried pods or flower heads. Allow these seeds to dry out completely before storing.

“Wet” seeds (i.e., seeds that grow embedded in wet flesh, like that of tomatoes, eggplant, cucumber, and zucchini) need additional processing before saving. Scoop out the flesh containing the seeds and add to a bowl of water, then separate out seeds with your fingers. An old rule of thumb is that healthy seeds will sink to the bottom while dead seeds will float. Pour off the flesh and dead seeds, and repeat rinsing until the remaining seeds are as clean as possible—this will help prevent them from sticking during the drying process. Dry on a lightly oiled glass surface or scavenged window screen in a dry, dark place for several days to 2 weeks (large seeds take longer than small ones) until they are completely dry. Carefully remove the seeds from the drying surface for storage.

Some seeds, like tomato, need to be fermented before storing in order to remove germination-inhibiting substances on the seed surface. Repeat the same process as above, adding the seedy flesh to a small amount of water, but allow it to sit out and develop a layer of mold (1–3 days) before removing and further cleaning the seeds.

## STORING SEEDS

Label all seed packets before storing them in a dark, cool, and dry location. While the act of drying and storing seeds can allow for years of long-term storage, the process will invariably kill some seeds and generally impact the germination and vigor of future plants. Note harvest dates on whatever container you store the seeds in so that you can employ a first-in-first-out rotation, using the oldest seeds first.





## IT'S NOT EASY GROWING GREENS SALAD

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The prospect of growing your own food might seem daunting, especially when day-to-day-trying-not-to-become-zed-food occupies 95% of your time. Good thing you can get all of the nutrition you'd get from vegetables (and more) through the effortless act of sprouting.

Sprouting does require several days' lead time, and especially if sprouts are your main source of fresh nutrition, you may want to start a staggered seeding system so that you can have a steady supply. Sprouting trays are great for this—you can have several varieties, in decent quantities and in different



stages of growth, sprouting in them at any given time. No sprouting trays available? You can also use glass jars, as outlined in *Sprouting for Food* (below).

### **YIELDS:**

2 Hungry Survivor servings, 4 Regular Joe servings

### **REQUIRES:**

Chef's or survival knife and cutting board  
1 large mixing bowl  
1 small mixing bowl  
1 whisk

### **TIME:**

10 minutes

### **INGREDIENTS:**

1 c. sprouted adzuki beans  
1 c. sprouted green pea seeds  
1 c. sprouted garbanzo beans

1 c. sprouted onion seeds  
1 tbsp. finely minced scallion or onion  
1 tbsp. cider or other vinegar  
½ tsp. mustard powder  
Salt & pepper, to taste  
3 tbsp. olive or other oil

### **METHOD:**

- ① Rinse your sprouts in clean potable water, then dry using a salad spinner (if available), paper towel, or another clean absorbent (but not lint-y) material. Add the sprouts and onion or scallion to a large mixing bowl.
- ② In a small mixing bowl, whisk together the vinegar, mustard powder, and salt and pepper until combined. Slowly whisk in the oil until blended. Pour  $\frac{2}{3}$  of the dressing over the sprouts, then toss to coat. Taste, adjust seasoning if needed, and add the remainder of the dressing if desired. Eat immediately.

# **Sprouting for Food**

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In a world devoid of commercial agriculture and chock-full of survivors who know little about growing their own food, sprouting just might save your life. That may seem like pure hyperbole, but it's not—sprouted foods are incredibly quick, easy, and nutritious. Sprouting gives you all the vitamins, minerals, and proteins you'd get from full-grown plants in a superconcentrated source, and the process is as simple as an initial soak followed

by rinsing your seeds a few times a day until they've done their thing and are ready to eat. Depending on what you're sprouting, you can have fresh and highly nutritious food in as little as a day or two.

### **NUTRITIONAL INFO**

Like many health foods, the claimed benefits of sprouts are wide and varied, but what really matters to survivors of the zpoc



is their nutritional content. Sprouts have more nutrients per calorie than any other food. Not only do sprouts retain all the nutrition that nature packed into their seeds to create a plant, but the process of germination gives them very high enzymatic content and converts their starches and proteins into simple sugars and amino acids, which are easier for the body to digest.



## WHAT TO SPROUT

The most commonly used seeds for sprouting are alfalfa, broccoli, radish, clover, and sunflower. But you can sprout more than just seeds. Other good sprouters include grains like wheat, barley, buckwheat, and rye, or beans like mung bean, soybean, lentils, adzuki beans, black beans, and garbanzo beans.

## WHAT NOT TO SPROUT

Some seeds produce poisonous sprouts and should not be eaten: all members of the solanaceae family (tomato, potato, or eggplant) and rhubarb, for example.

## HOW TO SPROUT

Any viable seed can be sprouted; however, seeds that are produced specifically for sprouting and eating, as opposed to gardening, tend to be cleaner. Often seeds for gardening have been treated with pesticides. So if you are stocking up ahead of time, make sure you are getting seeds for sprouting. In the midst of the zombie apocalypse, you might not be able to be so choosy.

As is true when dealing with any and all food, and especially true when undead viruses are kicking around, make sure all tools and equipment have been cleaned thoroughly or sterilized in boiling water before you begin. Clean water is also key for hygienic sprouting, so be sure that the water you are using has been properly filtered and sterilized.

Add 1–3 tablespoons of a single variety of seed to a large glass jar. Cover the seeds with clean and potable water and soak for about 8–10 hours. After soaking, drain the seeds and rinse them with fresh water. Cover the jar with a fine breathable fabric or cheesecloth to allow for drainage and to protect them from dust, debris, and insects. Prop each jar up at an angle (a folded towel or a book is useful for this) to drain completely. Continue to rinse the seeds twice daily—not rinsing regularly can cause the sprouts to go rancid. Harvest timing is largely a matter of personal preference. Taste as you go along to see when the sprouts taste best to you, but most are ready in 3–5 days. Once sprouted, remove the hard hulls on seeds before eating (beans can be eaten whole).



# Container Growing

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Worrying about soil pH and plentiful rainfall during a zombie apocalypse might sound less than appealing, if not downright unrealistic. But those things are necessary for growing your own food, an essential part of zpoc survival.

Since you might not have the luxury of fortified farmland to grow on, chances are you will have to make due with container growing. Whether you're growing on a rooftop or in a window, here are the essentials.

## TYPE OF CONTAINER

You can use just about any container for growing plants—old rubber boots, wooden barrels, wheelbarrows, buckets, coffee cans, metal tea kettles, cookie tins, baskets, tires—making finding containers a scavenge-friendly task that can be tackled when the need arises.

That said, any container that may have once harbored chemicals (metal barrels or drums, for example) or may have been treated with chemicals (like varnished wood) should not be used. When selecting containers to be used outside, try to find weather-resistant objects that you would normally find stored outside, like existing pots and planters, kiddie pools, plastic recycling bins, or trash cans.

## SIZE OF CONTAINER

Collect a large variety of widths and depths—some plants need more width,

some more depth, depending on how their root systems grow.

Plenty of fruits and vegetables, like greens, red radishes, scallions, herbs, garlic, baby beets, short-root or round carrots, bush beans, and strawberries, will do fine in containers ranging from 8 to 12 inches deep. Tomatoes, squash, broccoli, cabbage, cucumber, eggplant, horseradish, full-sized carrots, and peppers generally need a deeper pot for their root systems, about 20 inches of depth.

Many varieties of fruits and vegetables are now specifically bred for container growing. If you're sourcing seeds pre-zpoc, look for anything labeled *compact*, *bush*, *baby*, *midget*, *dwarf*, *tiny*, or *teeny*.

## DRAINAGE

Especially when using nonconventional vessels for planting, you need to be sure there are adequate drainage holes. Several evenly spaced 1-inch holes in the bottom of your vessel should do the trick—you will know there is adequate drainage when the excess water drains quickly and easily after watering. Elevate your containers on wooden slats or bricks so the water can drain freely.

## GROWING MEDIUM

Scavenging or preparing the right growing medium is key to container growing—because unfortunately, finding an appropriate medium is not as simple as digging



## ZPOC-FRIENDLY SOIL AMENDMENTS

**Compost:** is the best all-around fertilizer for plants as it provides a variety of nutrients. See *Vermicomposting* (page 160) for how to set up your own worm-based composting system.

**Urine (yes, urine!):** is a readily available source of nitrogen that is very popular among gardeners. Use diluted in water at a 20:1 water to urine ratio.

**Coffee grounds:** provide nitrogen, potassium, and magnesium. They also decrease the pH of your soil, so use in moderation.

**Ashes from wood fires:** provide potassium and calcium carbonate. They also increase the pH of soil, so use in small amounts (a handful per 3 gallons of potting mix should be plenty).

**Pine needles:** provide nitrogen and increase pH.

**Seaweed tea:** provides potassium. Mix seaweed with water and let sit for 2 months, then strain and dilute with more water before using at a 3:1 water to tea ratio. [See *Foraging Kelp at the End of the World*, page 315, for more.]

**Rabbit droppings:** provide nitrogen—they're like nature's time-release fertilizer pellets.

**Charcoal from wood fires:** provides a great habitat for beneficial microorganisms due to its porous structure, though charcoal itself does not offer any nutrients. Mix in 2 handfuls per 3 gallons of potting mix.



up earth from your front lawn or your local park and plopping it into a pot.

Earth dug up from a lawn or other green space is part of an evolving and functional ecosystem. Using that earth for container growing will mean exposing your plants to potential contaminants, diseases, pests, and other microorganisms that could kill them. Garden soil or earth isn't the best medium for container growing, either, because plants in containers need aeration and drainage that straight-up soil cannot provide.

"Potting soil" is a specialized and commercially available medium designed for

container growing. It is generally completely earthless, containing a combination of peat moss, perlite, and vermiculite. If you haven't stockpiled potting mix ahead of time (or if you've run out), here's what you need to make your own when the zpoc hits:

- ★ 60% earth (from lawns, forests, or other green spaces)
- ★ 15% coarse sand as a perlite substitute (not fine sand from a playground or sandbox)
- ★ 10% sawdust as a vermiculite substitute
- ★ 10% finely shredded newsprint/paper egg cartons as a peat moss substitute



- ★ A sprinkling (5%) of charcoal (can be obtained from wood fires)

Once you have all the ingredients in your zpoc potting soil well combined, you should sterilize it to kill off any potentially harmful microorganisms or other contaminants. To do this, moisten your potting mix, spread it out on a tray(s), and cover with foil, if available. Bake using an *Oven Hack* (page 44) of your choice at very low heat (180°F; see *Judging Temperature*, page 47) for an hour or two, removing the foil cover to stir occasionally. Avoid heating over 200°F as this may damage the structure of the earth.

## GENERAL CARE

### Watering

Because the growing medium in a container is lighter and airier, of smaller volume, and not part of a larger ecosystem in the ground, containers tend to dry out more quickly than a traditional in-ground garden. However, plants often display the same symptoms when they are over- *and* underwatered, so take care—a good way to get a feel for when your plant needs water is by lifting the pot or container to check how heavy it is. Become familiar with the weight when the soil is dry and wet. Using sub-irrigated planters, or SIPs (*Self-Watering Planters*, page 155), can eliminate the guesswork here; they allow your plant to regulate their own water intake.

### Fertility: Soil pH & Plant Nutrition

Soil fertility is achieved primarily through a symbiotic relationship between the available nutrients in the soil and its pH (its level of acidity or alkalinity). While there are many reasons a plant might die or underperform, if your container plants aren't thriving, it's possible that the pH or soil nutrients need adjustment.

Nutrients are only available to plants if the soil pH is within a certain range, with the ideal range for most plants being between 5.5 (mildly acidic) and 7.0 (neutral). In the absence of soil pH testing, it will be hard to get a specific value for your soil's pH. You can, though, get a feel for whether your soil is generally acidic or alkaline by taking a small sample and mixing it with water. Sprinkling the top with baking soda will cause a bubbling reaction if the soil is acidic. Following the same steps but using vinegar instead of baking soda will produce a fizzing reaction if the soil is alkaline. If there is no reaction in either test, your soil is fairly neutral.

All plants need three primary nutrients in high quantities: nitrogen (N), phosphorus (P), and potassium (K). Plants also need calcium (Ca), magnesium (Mg), and sulfur (S), along with a handful of other trace elements. Generally, plants in containers exhaust the nutrients in their soil more quickly than do plants in the ground. How often you should fertilize in a container farm is a tricky question because different plants have different requirements at



different times of the season. Here are a few general tips:

- ★ Leafy greens need a lot of nitrogen, supplied regularly (every few weeks) in small quantities.
- ★ Root crops need phosphorus, supplied regularly (every few weeks) in small quantities.
- ★ Fruiting vegetables need increased potassium during the flowering stage.

If you are able to get your hands on a supply of commercial fertilizers (with N-P-K quantities typically listed right on the bag), R. J. Ruppenthal, author of *Fresh Food from Small Spaces: The Square Inch Gardener's Guide to Year-Round Growing*,

*Fermenting, and Sprouting*, advises to stay away from commercial fertilizers with an N-P-K reading above 0.5%—higher amounts can burn container plants. There are, however, a handful of low-tech au-naturel options (see *Zpoc-Friendly Soil Amendments* on [page 146](#)).

Be aware that most soil amendments will take time to work their magic. According to Brett L. Markham, author of *Mini Farming: Self-Sufficiency on ¼ Acre*, it might take as long as 40 to 60 days to see signs of improvement. Be sure to wait before adding additional amendments. Signs of overfertilizing include yellow and wilting leaves or brown edges appearing on leaves.

## Window Farming

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Seasonal weather, space limitations, and, in all likelihood, the ever-growing skele population might require you to grow food indoors. Wouldn't it be great to build a hydroponic farm in your safe house? Oh right, electricity for the grow lamps and water pumps has long since sizzled out. And let's not forget about the scarcity of water (see *A Hydrated Survivor Is a Happy Survivor*, [page 206](#)).

But don't worry! With a little work and a few clever hacks, you can still grow fresh food inside, away from the filthy (and not to mention grabby) hands of the undead.

### WHAT TO GROW

Unless you are camped out in an office building or another structure that has exceptionally large windows and a favorable southwestern exposure for sun-loving plants, chances are you will be growing in lower-light conditions. If you have the luxury of pre-zpoc prepping, use the guide in this section to seek out varieties specifically bred for low-light conditions and/or indoor growing. Light requirements will be labeled on the seed packages.

Leafy green vegetables like kale, Swiss chard, lettuces, spinach, arugula, and beet



or radish greens have lower light requirements and can do very well in partial shade with only a few hours of indirect light each day. Many of these plants are quite hardy and will also grow in cooler temperatures, meaning that they could withstand a draughty safe house over winter.

Bush varieties of both peas and beans are low-light friendly, grow quickly, need little in the way of trellising, and can be grown close together for optimum yields. Plus you can pick them when they are young and tender or grow them to maturity (for higher protein content), at which point you can also shell and dry them for storage (see *Seeds!*, page 139).

Depending on your particular growing environment (what gardening folk might call your “microclimate”), root and tuber vegetables like carrots, beets, small radishes, and potatoes could do well. Think about it this way: the potato, carrot, or beet that you eat is actually the plant’s way of storing energy from the sun—so the more sun, the bigger and tastier the root or tuber. But if you have at least a little sunlight and are patient (i.e., give the plant extra growing time), you can likely still grow any of the root and tuber veggies. They make excellent candidates for early harvest, at the “baby” stage. Look for “round” or “globe” varieties that do not root very deeply and can be grown in smaller containers.

Some herbs will grow in lower-light conditions, though most prefer a lot of light and can be finicky. Chives, parsley, bay leaves, mint, and Vietnamese coriander

are all reliable herbs for the beginning zpoc grower in low-light conditions.

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**TIP:** *Herbs prefer to be on the dry side, so water herbs by thoroughly soaking them only once they have completely dried out.*

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## SETTING UP A WINDOW FARM

There are as many clever and ingenious ways to set up your indoor mini farm as there are walking dead. Following the general guidelines for *Container Growing* (page 145), be creative and develop a system that works for your own preferences, available materials, and microclimate. However, described in this chapter is a step-by-step guide for a quick-and-dirty hanging pot system.

Because hanging pots filled with potting mix can be quite heavy, herbs and other leafy (and lighter!) plants are the best candidates for hanging. The most secure spot to hang heavy pots from is a ceiling joist—a sturdy beam that supports the ceiling. You can find ceiling joists by knocking on the ceiling—you will hear a dull short thud as opposed to an empty echo. If there isn’t a joist conveniently positioned near and parallel to a window frame, you can try to scavenge some toggle bolts from the local hardware store to prevent the weight of the pots from breaking through the drywall—though excessive weight will break through even with toggles. In the absence of joists and toggles, use simple hooks directly in the ceiling, parking any pots heavier than



around 5 pounds on a table in front of the window instead.

Self-watering planters, or sub-irrigated planters (SIPs), are another great option for windows—particularly for greens, herbs, and other shallow-growing plants—and can be easily put together with found materials. Check out *Rooftop Farming* (page 153) for tips and ideas.

## HANGING WINDOW POTS

### WHAT YOU WILL NEED:

- ★ Seeds for low-light plants like leafy greens (e.g., lettuces, chard, and kale), bush beans, and peas, beets, potatoes, or herbs (e.g., chives, parsley, and mint)
- ★ Potting mix (see *Growing Medium*, page 145)
- ★ Several food-safe containers, at least 6" in diameter and depth
- ★ Screwdriver
- ★ Hammer and nails
- ★ Wire coat hangers
- ★ Wire cutters
- ★ Ceiling hooks, rated for 10 lb. or more
- ★ Toggle bolts, preferable self-drilling (optional, for large heavy pots)

#### ① Clean containers out thoroughly.

Carefully poke drainage holes in the bottom of each container with a nail or screwdriver or some other pointy item.

#### ② Poke a small hole, 1–2 inches from the top, on either side of the container for handles. Fashion said handles from wire

hangers in varying lengths, which will let you stagger container height and fit in more containers than would hanging them side-by-side at the same height. Set the handles aside for now.

③ Add potting mix to your planters. Sow the seeds according to package directions; in their absence a good rule of thumb is to plant seeds at a depth three times their thickness—for some seeds this will be a very shallow depth. Water thoroughly after planting and allow to drain freely.

④ Set up ceiling hooks (with or without toggle bolts) in a staggered, zigzag formation parallel to the window to maximize the number of plants you can hang. If using a toggle bolt, make a hole just large enough for you to insert the folded wings of the bolt, then insert the bolt and screw in the ceiling hook. If your bolt is self-drilling, simply drill the bolt through the ceiling as if it were a screw, and then attach the ceiling hook.

⑤ Attach the pots to the handles. Hang the pots, alternating long and short handles.

If you can, provide the plants in your window with a white backdrop (a sheet or white wood panels). Not only will these help retain heat in colder months, they will also be very effective in reflecting light back on to plants, maximizing their exposure in low-light window growing conditions. Be sure to rotate your pots daily so that all sides receive direct light.



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**RECOMMENDED READING:** To learn more about indoor gardening, check out *The Year-Round Vegetable Gardener: How to Grow Your Own Food 365 Days a Year No Matter Where You Live* by Niki Jabbour.

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## DEAD EASY PEAS

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When container growing during the zpoc, bush peas are lower maintenance and easier to grow than the pole variety, which require additional work (trellising, stalking, or poling to provide support for upward growth). Bush peas tend to prefer cool weather, so plant them in the early spring. They are ready to harvest when the pods are plump but not bursting, after about 60 days. Regular harvesting will encourage continued growth.

This recipe calls for a shell pea. Laxton's Progress is a great bush variety to use here. The combination of mint and peas is an old and reliable one, with mint being an easy-to-grow herb that does fairly well in low-light conditions—ideal for either window or rooftop farming.

This recipe is adapted from Jamie Oliver's "Fish, Chips & Mushy Peas" in *Jamie's Dinners*.

### YIELDS:

1–2 Hungry Survivor servings, 3–4 Regular Joe servings

### REQUIRES:

1 medium pot  
1 colander  
1 potato masher or fork  
1 large bowl

### HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

### TIME:

5 minutes prep  
30–45 minutes unattended roasting time

### INGREDIENTS:

4 c. shelled peas  
Olive oil, to taste  
Salt & pepper, to taste  
12 mint leaves, washed

### METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*, then bring a medium-sized pot filled with water to a boil. Add peas and cook until tender, about 2 minutes.
- ② Strain the peas, reserving the liquid for another use, like watering plants. Add the peas to a large bowl and mash with a potato masher or fork until relatively smooth. Drizzle with olive oil, season with salt and pepper, and tear the mint leaves into the bowl. Mix until well combined, taste, and adjust seasoning if needed. Serve immediately.



# LIFE'S CHARD BUT IT WILL BE OKALE

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Chard and kale are two nutritious greens that are great for either *Window Farming* (page 148) or *Rooftop Farming* (page 153). They do well in soda bottle SIPs (*Self-Watering Planters*, page 155) but will do even better in a long, shallow container at least 6 inches deep, like a window box. Kale does best (and tastes best) in cool weather (though it can be grown any time of year). Because chard will tolerate both hot and cool weather, you can plant them at the same time.

Chard takes about 50 days to mature. When harvesting, 3–5 leaves can be twisted off a plant at a time, which will in turn stimulate the growth of new leaves. Chard is also a biennial plant, meaning it will only produce flowers and seeds in the spring of its second year, though its leaves are edible throughout its life cycle.

Kale takes a little longer to mature than chard, at about 60 days, so stagger the planting slightly. Since there are both edible and ornamental varieties of kale, be sure you are procuring edible types when stocking up on or scavenging seeds. It can be harvested in the same way as chard.

When braised, these greens become tender and melt in the mouth, and they're great served alongside the *Don't Shoot*

*Roasted Roots* (page 163) or on a thick piece of toasted *No-Knead to Panic Bread* (page 88) drizzled with olive oil.

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**TIP:** *Kale really likes nitrogen, making it a good candidate for a container that once housed peas, as the peas will have replenished the nitrogen in the potting mix.*

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## YIELDS:

1–2 Hungry Survivor servings, 3–4 Regular Joe servings

## REQUIRES:

Chef's or survival knife and cutting board  
1 large skillet, preferably cast iron, with lid

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

## TIME:

10 minutes prep  
10–15 minutes attended cooking time

## INGREDIENTS:

2 tbsp. oil  
½ onion, slice about  $\frac{1}{4}$ " thick slices  
2 garlic cloves, sliced  
8–10 c. mixture of Swiss chard and kale,  
rough chopped and washed well  
6 tbsp. water  
¼ bouillon cube  
1–2 takeout packages of soy sauce (2  
tbsp.)  
Salt & pepper, to taste



## METHOD:

- ① Start a cooking fire or other *Stovetop Hack* and heat a large skillet with oil over medium heat.
- ② Add the onions, cooking until they are soft and nicely browned, 3–5 minutes. Add the garlic and stir until fragrant.
- ③ Add the greens, in batches if needed, stirring until they begin to wilt. When all the greens are in the pan and have started wilting, add the water, bouillon cube, and soy sauce. Cover, reduce the heat, and let braise about 10 minutes, until the ribs of the greens are tender, stirring once or twice.
- ④ Toss well and taste. Add salt and pepper if needed. Serve immediately.

# Rooftop Farming

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Rooftop farming is great for urban survivors because gardens can easily be tucked away from street-level sight lines, thus hiding your activity from both zekes and raiders. More importantly, though, it allows you to grow full-sun plants in warm weather, vastly increasing your culinary and nutritional options.

Suburban survivors can also take advantage of rooftop growing—even if your home’s roof is not suited to parking a variety of heavy planters on it, chances are you have access to a nearby commercial building with flattop benefits.

## WHAT TO GROW

Where you live and what the climate is like in terms of temperature range, humidity, and rainfall will dictate your “hardiness zone”—in other words, what plants can thrive on your rooftop farm. The vegetable and fruit recommendations included here

apply to all North American “hardiness zones,” meaning that most survivors should be able to grow the fruits and vegetables mentioned. If you are scavenging for seeds, chances are anything you find in your area can be grown there, as most garden supply stores only stock plants that their customers can successfully cultivate. If you are sourcing seeds ahead of time, look up your particular hardiness zone to get a sense of what you can grow and what seeds you should store. Commercially available seed vaults should be tailored to your zone.

Most of the plants that can be grown in low-light window farms (see *Window Farming, page 148*)—roots, tubers, leafy greens, beans, peas, and herbs—will do even better on rooftops. Fruiting plants like tomato, cucumber, eggplant, squash, and berries will appreciate the full-sun rooftops provide. Dwarf varieties of fruit trees like apple and pear may even be able



to thrive there in containers; however, natural pollination via honeybees and other flying insects might prove difficult in isolation on a high rooftop. Look for fruit tree varieties that are labeled “self-fertile” or “self-fruitful.” Keeping fruit trees close together and pruned to a small size will maximize your yield.

## Companion Plants

Companion planting refers to the conscious practice of planting particular plants, or particular combinations of plants, to strengthen the ecosystem of your container garden. For example, very aromatic herbs like rosemary and oregano along with stinkers like garlic and onion are excellent for deterring pests, while flowers like nasturtiums and marigolds attract pollinators and other beneficial insects like spiders.

Companion planting goes beyond pest deterrence and pollinator attraction, as many types of vegetables grow together symbiotically, like the most famously known “Three Sisters” of corn, beans, and squash.

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**RECOMMENDED READING:** *To bone up on the benefits of companion planting, check out Carrots Love Tomatoes: The Secrets to Companion Planting and Successful Gardening by Louise Riotte.*

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## PLANTING

Most seeds require three things for germination: a warm home (60°F–80°F), a light

### THINK OUTSIDE THE (WINDOW) BOX

Large containers that can be scavenged for rooftop use:

- // Burlap sacks
- // Car tires
- // Kiddie pools
- // Plastic garbage and storage bins



covering of growing medium, and consistent moisture. Sow seeds into the growing medium at a depth about 3 times the width of the seed. For some small seeds that will be very shallow! Additionally, sow 2–3 times more seeds than the number of plants that you want to grow—some will be lost during germination, after which any weak or struggling seedlings should be thinned out. Some seeds, like apple, will require a little extra coaxing and attention; unusual germination requirements are generally mentioned on seed packages. The germination period of each type of seed will be different—from a couple of days to a couple of weeks.

You can start plants indoors as many as 12 weeks before the final frost in your area, then move them outside when the weather is fair and the plants are strong enough. However, if you don’t have a reference guide or intimate knowledge of the timing for starting seeds inside, then you can start most everything directly outdoors in a growing medium just after the last frost.

Because of the higher risks from wind and other elements on a rooftop,



precautions should be taken to give plants extra stability. Weights made from rocks or bricks piled up around the container will usually do the trick. If you are feeling fancy, you could also build a wooden frame to hold all your pots, or even build raised beds for planting. Simple wind barriers, constructed from found materials like discarded or repurposed wood, may also be very helpful in protecting your food supply when the gales are a-gusting.

## Cross-Pollination

Interbreeding, or cross-pollination, happens when plant varieties of the same species swap genes during pollination. Cross-pollination is of most concern with plants that rely on wind and insects to pollinate; it will muck up the gene pool of the plants involved, inhibiting your seed-saving and growing efforts in the next season.

Examples of wind- or insect-pollinated plants that commonly cross in the vegetable garden include varieties of the following:

- ★ Beet
- ★ Broccoli
- ★ Cabbage
- ★ Carrot
- ★ Cauliflower
- ★ Corn
- ★ Cucumber
- ★ Melons
- ★ Onions
- ★ Radish
- ★ Spinach
- ★ Squash

The best way to prevent cross-pollination is to avoid planting different varieties of the same species at the same time. You can also use distance to control cross-pollination, but that might require several hundred yards of space, or more, depending on the crop. A more complicated solution is to cover the individual flowers of offending plants with panty hose, alternating day by day which variety remains uncovered to allow for pollination.

Alternatively, you could focus on plants that are in no danger of cross-pollination because they are “self-fertile”—that is, their individual flowers contain both male and female parts, and they pollinate themselves. These plants include beans, chicory, endive, lettuce, and peas.

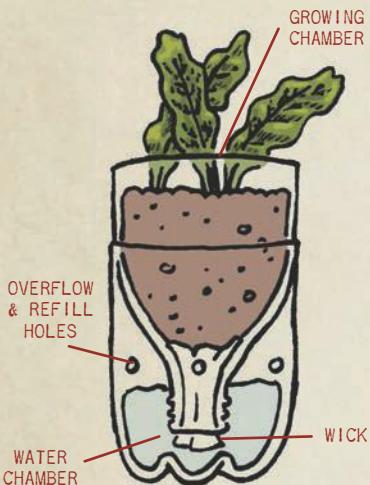
## SELF-WATERING PLANTERS (SIPS)

What better way to ensure your plants are getting an adequate amount of water than to let them water themselves? Self-watering planters—or sub-irrigated planters (SIPs), as they are also known—allow the plant to do just that . . . which will come in mighty handy when you need to travel for a scavenging mission or lay low in your safe house for a couple of days.

The three main components of a SIP are the water chamber, the wick, and the growing chamber (pictured on the next page). The water chamber is connected to the growing chamber via the wick—an absorbent material that transfers water to the growing chamber. Any basic design should also include a



## SODA BOTTLE SIP



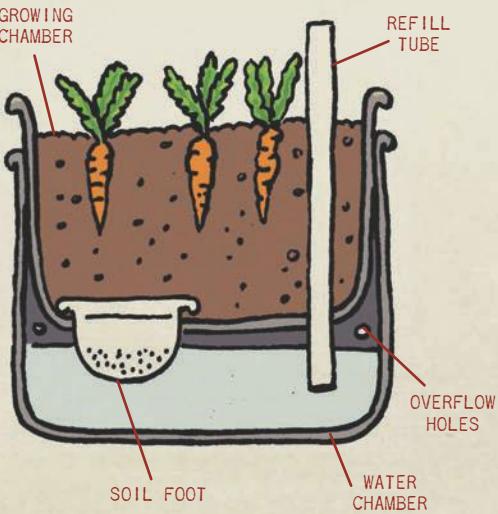
hole or tube for refilling the water chamber, along with airspace between the water reservoir and growing medium to prevent root rot. Airspace can be easily achieved with a well-placed overflow hole in the water chamber, as shown in the diagrams.

Once you understand the basic principles of SIPs, you can improvise these planters with any number of containers and materials. A simple self-watering planter can be made for shallow-growing plants, like herbs and greens, with as little as a plastic soda bottle, an absorbent material to wick the water, and potting mix.

You can also make a SIP by nesting two large plastic containers of the same size and

design—storage bins or 5-gallon buckets, for example. R. J. Ruppenthal, author of *Fresh Food from Small Spaces: The Square Inch Gardener's Guide to Year-Round Growing, Fermenting, and Sprouting*, recommends dark-colored containers to improve heat retention. The basic design for this larger-scale planter remains the same: a growing chamber suspended above a water reservoir. The two are connected via a wicking mechanism called a “soil foot”—a hole-filled container filled with soil—so the plants can pull up water as needed. A plastic pipe that runs through both containers allows you to refill the water chamber, and the overflow hole creates needed airspace.

## STORAGE BIN SIP



# KEEP CALM & CARRY ON KILLING ZOMBIES TEA

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Hard day of brain bashing? Overworked by all the horde evasion? Feeling a little anxious about when the next wave of flesh-eating skels might roll in? If you have chamomile growing either in your window garden or rooftop farm, you can soothe those harried nerves with a cup of lovely tea.

Chamomile seeds take 2–3 weeks to germinate. When planting, do not cover the seeds with potting mix as this will inhibit germination. Just sprinkle them on top of the mix, then keep them moist by misting them with a spray bottle as needed. These beautiful flowering plants will do well in a bright sunny window or full sun on the roof. Harvest the flowers when in full bloom by snipping them off with a knife or scissors. They can be brewed into tea while still fresh or dried out completely for longer-term storage.

While you can easily use hot water to brew your tea as described here, you can also try adding the ingredients to a clear glass jar and parking it in the sun to steep (which

is why this type of tea is often called “sun tea”)—this gentler method allows more of the vitamins and minerals to remain intact for consumption.

## YIELDS:

4 c. tea

## REQUIRES:

1 medium saucepan

Mug(s)

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
(page 42)

## TIME:

5 minutes minimally attended cook time

## INGREDIENTS:

¼ c. fresh chamomile flower heads, or  
2 tbsp. dried

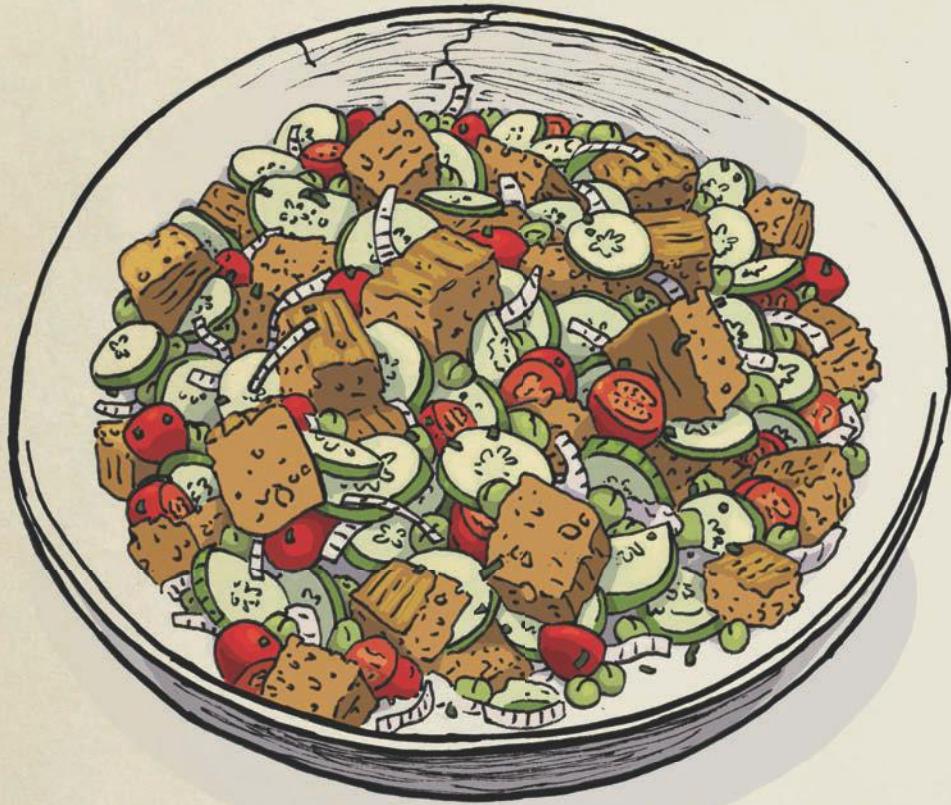
4 c. water

Sugar or honey, to taste

## METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*.
- ② Bring 4 cups of water to a boil over medium-high heat.
- ③ Add the flowers and let steep for 5 minutes. Strain and add honey or sugar, if desired.
- ④ Divide among mugs and serve.





## DAWN OF THE BREAD SALAD

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This recipe is a zpoc riff on the classic Italian bread salad, Panzanella. Panzanella is a traditional peasant food of Florence, devised as a clever and delicious way of using up stale bread. If your bread is already very dry, you can skip the toasting portion of the recipe. Panzanella is best made by those who are rooftop farming—when you can grow onions, cucumbers,

and nasturtiums—though you can make a simple version of this salad with only the window-grown ingredients like scallions (see *Guerrilla Gardening*, page 60), cherry tomatoes, and basil.

Seeds from the edible nasturtium flower are an excellent zpoc substitute for capers—they're often called the “Poor Man's Caper.” If you have canning equipment available,



you can give them a proper pickling (see *Putting Up*, page 165), but in this recipe they are quick-pickled in vinegar while you prepare the other ingredients. Pick the seeds off your nasturtium plants when they are still green and crisp, but be sure to leave seeds on the plant for saving (see *Seeds!*, page 139).

#### **YIELDS:**

2 Hungry Survivor servings, 4 Regular  
Joe servings

#### **REQUIRES:**

Chef's or survival knife and cutting board  
1 small bowl  
1 baking tray  
1 large mixing bowl

#### **HEAT SOURCE:**

Indirect, *Ammo Can Oven* or other *Oven Hack* (page 44)

#### **TIME:**

15 minutes prep  
15–30 minutes unattended marinating time

#### **INGREDIENTS:**

$\frac{1}{4}$  c. nasturtium seeds  
 $\frac{1}{4}$  c. vinegar, preferably red wine  
 $\frac{1}{2}$  loaf *No-Knead to Panic Bread* (page 88),  
cubed  
 $\frac{1}{3}$  c. olive oil

Salt & pepper, to taste  
2 c. cherry tomatoes, halved  
1 c. cucumber, sliced  
1 small red onion, sliced very thinly, or  $\frac{1}{2}$   
c. thinly sliced scallions  
12 basil leaves, washed

#### **METHOD:**

- ① Set up an *Ammo Can Oven* or other *Oven Hack* for 350°F baking (see *Judging Temperature*, page 47). In a small mixing bowl, combine the nasturtium seeds and vinegar. Set aside.
- ② Lay the cubed bread out on a baking sheet. Drizzle with some olive oil and season with salt and pepper to taste. Bake until lightly browned and slightly toasted, but not crunchy, about 4 minutes. Remove from oven and set aside.
- ③ In a large mixing bowl, combine the tomatoes, cucumber, and onion. Tear the basil leaves into the bowl as well.
- ④ Add the toasted bread to the bowl and drizzle with the remaining oil. Toss until evenly coated, then drizzle in the vinegar and nasturtium seed mixture. Season with salt and pepper, then toss again. Let the salad sit for about 10 minutes to allow the flavors to come together before serving; taste and adjust seasoning if needed. Serve immediately.



# Vermicomposting

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You might be thinking, “Seriously? Now she wants us to *compost*? During the *zombie apocalypse*!?” Yes, yes, I do. There is no better (or easier!) source of nutrition for your food plants than the wondrous stuff that nature cooks up all by Herself.

It’s true, the natural processes involved in breaking organic matter down into a nutrient-rich and superbenevolent buffet for your plants, while almost completely effortless, takes time and the right conditions. And seeing as how a zombie apocalypse is rife with human-eating and insatiable predators, you might not have the luxury of time. But that is why I am a proponent of worm composting, or vermicomposting. Those little wrigglers make quick work of turning your food waste into black garden gold. With worms in the mix, you can have compost, or worm castings, in a matter of days. And if your population starts to overrun the tower, you’ll have another source of protein for eating (no joke! See *Apocalyptic Entomophagy*, page 115).

Now, the regular work-a-day night crawlers that you might find wriggling around in any old patch of earth are not the ideal candidates for composting—red wigglers (*Eisenia fetida*) are the ones you want for the job, as they have evolved to thrive in decaying organic matter. Look for them in piles of rotting vegetation, manure,

or existing compost bins—they live in and around the soil surface so you won’t have to dig too deep for them.

## HOW TO BUILD A VERMICOMPOSTER

You can build a worm composter using as little as a single plastic bin with a lid. However, building a system with several layers will ultimately require less maintenance and run more smoothly. Long, shallow containers, which offer more surface area than depth, are best as the worms need room to move around and do their thang.

As to how many worms you should hunt down, one pound of worms can consume about one half pound of food every day. But one pound of worms is about 1,000 worms! So that might be hard to come by. The upside is that red wigglers are good little reproducers, and your population should double every 90 days or so.

The plastic bins will create a stacked tower that the worms can work their way through—they start by consuming food in the second tier until it is filled with compost, then move up into the third tier to start over again. The first tier acts as a receptacle for the naturally occurring liquids that happen through the composting process—this liquid can be used as fertilizer too, so don’t scrap it!



## WHAT YOU WILL NEED:

- ★ 4 large (20+ gallon) plastic storage bins of the same size/make, with one lid
- ★ A screw, drill bit, or serrated utility knife
- ★ Worms
- ★ Cardboard or shredded newspaper to cover the bottom of each bin
- ★ A few handfuls of dirt and leaves
- ★ Some cornmeal (if you have it)

① Set aside one bin for the drainage base of your tower. Cover the bottom of the other three bins plus one lid with holes large enough to allow the worms to pass through, but not so large so as to allow the castings to seep out—1-inch holes should be plenty big. These holes will also allow for airflow and drainage. Smooth out any rough or sharp edges around the holes to protect the worms.

② Put one of the bins with holes in the bottom into the drainage base bin, nesting the two snugly, but not tightly, together: really pushing in the top bin will make it harder to remove later! Feel the sides of the bottom container to judge where the nested container ends inside it—mark this off on the bottom container as the “full” line, to use as a guide to how much the bin should be filled before you add the next tier. Mark the other bins with “full” lines at the same level.

③ To the bottom of the second-level container, add a layer of shredded newsprint. Sprinkle with a handful of earth/leaves and cornmeal (if



## VERMICOMPOSTING TOWER

available). Add the worms and cover the container with the hole-covered lid. Allow them to acclimate for about a day or so before feeding.

④ Feed your worms a small amount of food for the first feeding, both to give them a chance to adapt and to allow



you to assess how much they can eat in a day (generally about  $\frac{1}{2}$  lb. of food per pound of worms per day).

- ⑤ When the bin of worms and castings has nearly reached the marked-off “full” level, give them one more hearty feeding reaching right up to that “full” level. Add the third bin, again nesting it so that it fits snugly, but not tightly, into the other. Add fresh bedding and food to the new bin.
- ⑥ Continue feeding in the new bin until all your worms have migrated up; it should take about a week or so.
- ⑦ When needed, you can harvest the castings in the second tier by taking apart the tower and removing the castings-filled container, then reassembling it with the current worm-filled bin acting as the second tier above the drainage bin. Or continue feeding until you are up to the fourth (and last) tier, then harvest two bins of castings. Any liquid captured in the drainage base container can also be used as a fertilizer for plants! Repeat this process as needed.

Your little wormy friends aren’t really very picky eaters; however, you will soon learn what they *really* like eating as they gobble those choice foods down first. That said, there are some things your worms definitely cannot eat because those things will kill them.

In general, worms *cannot* digest fats, meats, and dairy. Salt and acids are also very bad for them. Synthetics and chemicals are obvious no-no’s. But worms *can* break down natural fabrics like cotton, coffee grounds, rinsed and broken-up eggshells, and paper.

## WHAT YOU CAN FEED YOUR CRAWLERS:

- ★ Coffee and tea grounds
- ★ Cotton
- ★ Eggshells
- ★ Grits
- ★ Leafy greens
- ★ Low-acidity citrus
- ★ Non-acidic fruits and vegetables (e.g., tomatoes and green peppers)
- ★ Paper
- ★ Potatoes
- ★ Rice

## WHAT YOU CANNOT FEED YOUR WRIGGLING BUDDIES:

- ★ Animal waste
- ★ Butter
- ★ Eggs
- ★ Highly acidic fruits and vegetables (e.g., lemons, limes, and oranges)
- ★ Hot peppers
- ★ Meat
- ★ Oil
- ★ Salad containing salad dressing
- ★ Salt





## DON'T SHOOT ROASTED ROOTS

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If you ever find yourself faced with a crew of unruly hog-riding raiders blazing into your hood, you could always try to win them over with food from your burgeoning window or rooftop garden. Perhaps when they try this delicious mélange of warm roasted veggies, their cold and ruthless hearts will soften enough to spare your group from their barbaric ways. Or perhaps your impressive food-growing and cooking skills will buy you and your group a one-way ticket to slave labor. That's the thing with raiders; you just never know.

If planted at the same time, the roots in this recipe will not mature at the same time. Beets and turnips take about 65 days to

mature, while carrots generally take 75, rutabagas 90, potatoes (not actually a root but a tuber) about 100, and celeriac up to 160. You can stagger the planting so that they mature at roughly the same time, or if you aren't having problems with pests, those with shorter growing times can be left in their containers until you want to harvest them.

Bulb onions take about 110 days to grow to maturity, while garlic takes anywhere from 90 to 150, depending on the variety and growing conditions; however, these can be stored for an extended period after harvesting as long as conditions are not too hot or humid. (You might also consider *Building a Root Cellar*, page 190, for storage—great



for survivor settlements or your *Long-Haul Bug-Out Location*, [page 306](#).)

### **YIELDS:**

2–3 Hungry Survivor servings, 4 Regular Joe servings

### **REQUIRES:**

Chef's or survival knife and cutting board  
1 large mixing bowl  
1–2 baking trays

### **HEAT SOURCE:**

Indirect, *Hibachi Grill* or other *Oven Hack* ([page 44](#))

### **TIME:**

15 minutes prep  
60–75 minutes mostly unattended baking time

### **INGREDIENTS:**

$\frac{1}{2}$  lb. red-skinned potatoes, unpeeled, scrubbed, cut into 1" pieces  
 $\frac{1}{2}$  lb. celery root (celeriac), peeled, cut into 1" pieces  
 $\frac{1}{2}$  lb. rutabagas, peeled, cut into 1" pieces  
 $\frac{1}{2}$  lb. carrots, peeled, cut into 1" pieces

$\frac{1}{2}$  lb. parsnips, peeled, cut into 1" pieces  
2 onions, cut into 1" pieces  
2 tbsp. chopped fresh rosemary  
 $\frac{1}{2}$  c. olive, or other, oil  
Salt & pepper, to taste  
5 whole garlic cloves, peeled

### **METHOD:**

- ① Set up a *Hibachi Grill* or other *Oven Hack* for 400°F roasting (see *Judging Temperature*, [page 47](#)). Toss all ingredients save the garlic cloves together in a large mixing bowl, seasoning with salt and pepper to taste.
- ② Spread the veggies out onto a baking tray in a single layer, dividing them between two if the trays are too crowded. Over-crowding the tray will mean the vegetables will steam rather than roast, preventing them from browning. It will also make it difficult to toss them during cooking.
- ③ Bake for half an hour. Toss the vegetables and then nestle the garlic into the vegetables.
- ④ Bake another 20–30 minutes until the vegetables are nicely browned and tender.



# PUTTING UP: CANNING, PICKLING, FERMENTING, & MORE



**THE ONLY WAY PEOPLE COULD ESCAPE FROM  
A DAILY PREOCCUPATION WITH FEEDING  
THEMSELVES WAS BY ACQUIRING THE ABILITY  
TO PRESERVE FOOD FOR THE FUTURE.**

—Sandor Ellix Katz, *The Art of Fermentation*

*As has been pointed out many times already, growing, scavenging, and securing food during the zombie apocalypse will be a monstrously hard task. And in a world without refrigeration, all survivors should have a few basic food preservation skills in their back pockets. If at any time during an uprising of reanimated corpses whose sole and unrelenting purpose is to eat your innards you find yourself with an abundance of fresh fruits and vegetables that are at risk of spoiling, you are a very lucky survivor indeed—and you need to be ready to take advantage.*

*Food preservation is about learning to make the most of surpluses in any and all forms, from the turnips growing on your rooftop farm to the abundance of wild berries you might stumble across in a forest. Outlined in this section are low-tech, apocalypse-friendly techniques for canning, pickling, fermenting, curing, and smoking (but you got that from the title, didn't you?).*

# Canning

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Canning as a method of food preservation dates back to Napoleon's famous idea that "an army marches on its stomach." In 1795 he put forth the challenge of finding a preservation technique that would prevent rations from spoiling out in the field and offered a 12,000-franc reward. Fifteen years later, French chef Nicolas Appert gave the world its first iteration of hot-water canning.

Hot-water canning, or just simply "canning," is a generally safe and simple process, allowing you to preserve excess bounty from your *Window Farming* (page 148) or *Rooftop Farming* (page 153) efforts. The process involves putting the foods you want to preserve into sterilized and sealable containers, then immersing the vessels in a hot-water bath to seal and "process," or heat sterilize, the contents for long-term storage.

While the mason jars used for canning have become ubiquitous in the pre-zpoc world and should be fairly easy to scavenge—used as everything from kitschy drinking glasses to candle holders—the self-sealing tops crucial to protecting your food from spoiling will probably not be as easily found. You might be able to scavenge some from a nearby store or even residential houses; however, I highly recommend stocking up ahead of time.

## TOOLS

### LARGE CANNING POT (AT LEAST 18–21 QUARTS)

Jars need to be fully immersed during processing, making a large pot essential for canning. You can also use this pot to sterilize your jars and tools before getting started.

### GLASS MASON JARS & SELF-SEALING LIDS

As long as they are the equivalent size, self-sealing metal lids and threaded metal screw tops should fit on any standard home-canning jar regardless of brand or manufacturer. If you are stocking up ahead of time, get a variety of lid sizes.

### JAR LIFTER

Although tongs could be used instead, the specialized jar lifter's clever design and rubberized grip are much safer for lifting hot cans out of the water.

### WIDE-MOUTHED FUNNEL

While this tool isn't an absolute necessity, it will make pouring liquid foods, like jams or sauces, into jars much cleaner and easier.

## HOW TO CAN

- 1 Sterilize equipment by submerging in boiling water for 10 minutes: jars,



metal screw tops, funnels, ladles, and any other utensils that will come into direct contact with the food you're preserving. Bring the temperature of the water down to a gentle simmer and add the lids. Though the lids must be warmed before using, boiling them before processing the filled jars can damage the adhesive that creates an airtight seal. Instead, wash them with soap before adding to the pot if possible. Keep the pot and all contents warm over a low flame while you prepare the recipe.

- ② When ready to use, remove the jars, lids, and screw tops from the simmering pot with tongs, draining and shaking off as much residual water as possible. Lay them out on a clean surface or towel. Fill the warm jars with your recipe, leaving the "headspace" (gap at the top) specified in the recipe. In the absence of a recipe, often it is  $\frac{1}{4}$ – $\frac{1}{2}$  inch of space. When you are pickling, make sure the food is completely covered by the pickling liquid. Give the contents a stir to release any lingering air bubbles. Wipe the rim of each jar with a clean cloth then, using tongs, put on the flat sealing lid and thread on the metal band.
- ③ Put your jars into the canning pot, making sure they are covered by at least an inch of water, and bring the water to a boil. Allow the jars to boil for the length of time specified in the canning recipe, typically 10–15 minutes, but don't start counting time until the water comes to

a rolling boil. Remove your pot from the heat and let sit for 5 minutes.

- ④ Carefully remove jars from the pot and allow them to cool undisturbed on a rack or towel for 24 hours. You should start to hear the jars popping; the sound means a jar has been properly sealed. After 24 hours, check each jar by removing the metal screw top and inspecting the flat lid—it should be taut and adhere tightly to the jar.
- ⑤ Replace the screw tops and store your jars in a cool, dark place, or consider building a *Root Cellar* (page 190). Most canned foods should last for at least a year.

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**RECOMMENDED READING:** *For more on home canning and preserving, check out the lovely and thorough guide Saving the Season: A Cook's Guide to Home Canning, Pickling, & Preserving by Kevin West.*

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## WHAT (NOT) TO CAN

In order for foods to be stored long-term after canning, they must contain a certain level of acidity. Generally foods with a pH of 4.6 and higher do not contain enough acid for canning on their own; however, mixing with other higher acid foods or vinegar can make them safe for canning.

A few common foods that cannot be canned safely on their own:

- ★ Asparagus
- ★ Beans
- ★ Beets



- ★ Bell peppers
- ★ Cabbage
- ★ Carrots
- ★ Corn
- ★ Lima beans
- ★ Mushrooms
- ★ Peas
- ★ Potatoes
- ★ Pumpkin
- ★ Spinach
- ★ Squash
- ★ Turnips

## Turning Fruit into Jam

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Depending on the climate where you live or have fled to, you may have a variety of fresh fruits to choose from come growing season—and more of them than you can possibly eat before they go bad. Whether they're grown in your *Rooftop Farm* (page 153), pilfered from a reanimated green-thumbed neighbor, or scavenged from a local fruit farm, any kind of fruit surplus can be easily remedied with a little jamming.

### JAMMING BASICS

Jamming is a preservation technique dating back centuries that requires little in the way of additional ingredients: All you really need is sugar and the right combination of fruits. When heated, fruit becomes that thick spreadable stuff we all love via the transformational relationship between pectin, acid, and sugar.

### PECTIN

Pectin is a naturally occurring water-soluble fiber that, working along with sugar and

acid, is crucial in forming the molecular gel network needed to thicken jam to a "set" consistency. With enough time and heat, you could cook virtually any fruit down to a jammy consistency without added pectin; however, long cooking times lead to overprocessed flavors and textures, low yields, and a much less enjoyable jam. The presence of pectin speeds up and improves the setting process—the more pectin, the shorter the cooking time and firmer the set.

Commercially produced powdered pectin is often used for jamming; however, it is naturally found (in varying amounts) in all fruit and is at its highest concentration when fruit is slightly under-ripe. If you haven't stockpiled any of the commercial stuff pre-zpoc, you can always harness the power of natural pectin by mixing high-pectin fruits like tart apple, currant, citrus rind, or cranberries in with low-pectin fruits like blueberry, strawberry, sweet cherry, and peaches. You can also extract the pectin from the skin and seeds of tart high-pectin apples



by preparing a “tea” that is added to the fruit before cooking—see *Pectin Tea* (page 174) for more.

## ACID

Acid is another key player in the gelling game, which neutralizes the charged and repellent pectin molecules so that they are able to bind together. As with pectin, acid is naturally present in fruits in varying quantities and at its most concentrated in slightly under-ripe fruits. There are commercially made and shelf-stable sources of acid that can be used in zpoc jamming. One of these is citric acid, but if you don’t have it on hand, you can mix high-acid fruits like citrus, grapes, and raspberries with low-acid fruits like sweet apples, peaches, and blueberries.

## SUGAR

People often question the seemingly excessive use of sugar in jam making. Why add so much sugar to wonderfully ripe and flavorful fruit? Part of the reason is that slightly under-ripe fruits are ideal for jam making, given their higher pectin and acid content, so sugar does play a role in flavor. But perhaps more importantly, sugar completes the gelling puzzle. Sugar absorbs water molecules, effectively tying them up and forcing the pectin molecules together into the gel network needed for setting the jam.

Sugar also acts as a preservative that deters the growth of molds and other bacteria—the higher the sugar content, the longer your jam will keep. That said, in and of itself a high sugar content does not

### ACID & PECTIN IN FRUIT

**High pectin, high acid:** Tart apples, crabapples, cranberries, blackberries, gooseberries, lemons, red currants, grapes

**High pectin, low acid:** Sweet oranges, tangerines, sweet apples, ripe quince

**Low pectin, high acid:** Apricots, pomegranates, strawberries, sour cherries, pineapples, raspberries, rhubarb

**Low pectin, low acid:** Peaches, nectarines, pears, blueberries, ripe mangos, sweet cherries, pears, any overripe fruit



make jam safe for long-term storage. It also does not kill off botulism or other potential pathogens (that’s what hot-water processing is for!). A standard jamming rule of thumb is a 1:1 ratio of fruit to sugar. The most accurate way of achieving this is by using a scale and measuring by weight, but you can also use cup measures or any other vessel at your disposal.

## COOKING JAM

It’s good practice to cook your jams in small batches of 6 cups of fruit or less—the larger the batch, the longer the cooking time you’ll need, and prolonged cooking actually breaks down the natural pectin while also killing the lovely fresh flavor of the fruit.

It is also good practice to slowly heat your fruit mixture, allowing the sugar to completely dissolve before bringing to a boil.



## BURYING YOUR BOUNTY

Your bug-in food growing efforts are going splendidly. You've scavenged enough sugar, salt, and vinegar to preserve your bounty, and you've gotten the hang of this whole canning thing—jams, pickles, and peppers—oh my!

But oh no! Your safe house was overrun with zeds, and in their mindless klutziness, they knocked over all your jalapeño jelly, all your canned tomatoes, all your dilly beans—all of everything! Or maybe your bounteous rooftop farm caught the eye of some opportunistic raider who has utterly cleaned out your canned goods cache. How can you avoid this happening again? Three words: bury your bounty!

If you feel you're reasonably stable and have a good safe house sitch going on, then skip right to the more sophisticated version of burying: building your very own *Root Cellar* (page 190). Otherwise, find yourself a 5-gallon bucket or even a 55-gallon drum if you've got lots to squirrel away. Fill it with your canned foods, cushioning them with some old (clean!) T-shirts, towels, or other soft materials, seal it up tight, then dig a hole 8–10 feet deep and bury that business. You can choose a location fairly close by or make a strategic choice and bury your goods off-site, perhaps along a route you've planned on taking in the event of a Get Out of Dodge (GOOD) situation. Or split your bounty accordingly and do both. Either way, taking out a little zpoc food insurance policy is a good idea—and this is true for more than just your canned goods! You can follow the same procedure for any bounty of nonperishables.



A hard boil for a minute or two is generally enough to achieve a proper gel. If you have a thermometer, a good rule of thumb is cooking to 8°F *over* the temperature at which water boils at your elevation (from sea level to 1,000 feet, for example, water boils at 220°F). A low-tech, zpoc-friendly method of checking the set is to simply take a small spoonful out of the pot and plop it onto a plate to let it cool (take the pot off the heat while you are doing this). After a minute or

two, if it has cooled to a thick consistency, then you are done. If it is still too runny, bring the pot back to a boil and test again after another minute or two.

## STORING JAM

Funnel your finished jams into glass home-canning jars, process in a hot-water bath, and off you go! See *Canning* (page 168) for instructions on canning and storing your jam long-term.





## IN A STRAWBERRY JAM

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Strawberries are one of the fruit crops best suited to a rooftop farm, as well as the berry you're most likely to find kicking around in some poor undead's yard. Strawberry jam—the king of fruit jams, perhaps—is

also one of the most basic jam recipes, and the general methodology applies for most other fruit jams.

Remember to make your jams in small batches of 6 cups of fruit or less. If you have



less fruit than the 6 cups called for here, just scale down the sugar accordingly, using a 1:1 ratio of fruit to sugar.

#### YIELDS:

About 8 x 8-oz. jars

#### REQUIRES:

Chef's or survival knife and cutting board  
2 large pots, one at least 18–21 qt. for processing the jam, one for cooking the jam in  
1 pair of tongs  
1 wide-mouthed funnel or ladle  
1 potato masher, pestle, or other tools for mashing  
8 x 8-oz. (or the equivalent in other sizes) glass canning jars with self-sealing lids and metal threaded screw tops  
2 clean kitchen towels or other fabric  
1 jar lifter, if available  
Large spoon

#### HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

#### TIME:

10 minutes prep  
20 minutes cook time

#### INGREDIENTS:

6 c. strawberries, washed, hulled, and roughly chopped (about 8–10 c. whole strawberries)  
 $\frac{2}{3}$  c. pectin tea (see sidebar)  
6 c. granulated sugar  
6 tbsp. finely chopped tarragon or thyme (optional, if available)

#### PECTIN TEA

You can extract the naturally occurring pectin from high-pectin fruits (like apples) for use in jamming by brewing a pectin tea. To make one, boil three pounds of roughly chopped tart and/or under-ripe whole green apples (skin, seeds, and core included) with four cups of water for about half an hour. Using cheesecloth or another clean fabric, squeeze out as much liquid as possible from the boiled apple mixture, then continue to boil the extracted liquid until it's reduced by about half.

Use  $\frac{3}{8}$  cup of liquid pectin for every 6 cups of fruit, added to the fruit at the start of cooking. Because the quantity of pectin in your tea will vary with each batch, adjust based on experience with the strength of individual batches.



#### METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*. Sterilize and prepare your jars, screw-top lids, and other tools for canning as per the instructions in *Canning* (page 168), leaving them at a gentle simmer in the pot until needed.
- ② Add the chopped berries and pectin tea to the cooking pot. Gently mash the strawberries with a fork to help stimulate the release of juice. Add the sugar, then gently bring to a boil over medium-high



heat so that the sugar has a chance to completely dissolve before it comes to a rolling boil.

③ Once the sugar is dissolved and the mixture is boiling, kick up the heat for a very rapid and hard boil. After a minute or two, if the mixture looks to be thickening, you can start testing its “gel” (see *Turning Fruit into Jam*, page 170, for more). When the jam is where you like it, remove from the heat and set aside for now.

④ Using tongs, remove the jars, screw tops, and lids from the hot water, shaking off as much water as possible, and laying upside-down to dry on a clean towel.

⑤ Skim the excess foam from the top of the jam using a large spoon, then stir in the tarragon and let the pot sit to cool for about 5 minutes. Using a wide-mouthed funnel or ladle, fill each of the jars with

jam, leaving about  $\frac{1}{4}$ -inch headspace at the top.

⑥ Using a clean towel, wipe off any jam that is gunking up the rims and outer edges where the lid and screw tops will be going. Using tongs, place a self-sealing lid on top of each jar, then twist on a screw top.

⑦ Add the jars back to the canning pot, then bring the water to a rapid boil and process for 10 minutes.

⑧ Carefully remove the jars from the pot using jar lifters or tongs. Lay the jars out on towels in a cool, dark place where they can rest for 24 hours without being moved or crowded together.

⑨ Test each jar by pressing down in the center of the lid; if it still pops/clicks up and down, the jar has not sealed properly. These are still safe to eat right away, but cannot be stored!

## Fermenting

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*The Night of the Living Dead* is to canning what *White Zombie* is to fermentation—long before the Romero ghoul, there was the voodoo zombi and long before canning there was fermentation. Fermentation is a mode of preservation that has been in use for millennia and was likely humanity’s very first method of putting up foods for delayed consumption.

So what is fermentation exactly? In the simplest of terms, fermentation is the transformation of food by microorganisms. By creating an environment that is favorable to specific beneficial bacteria—lactic acid bacteria (LAB)—we can harness the natural preservation power these little critters generate.

It likely seems very counterintuitive to preserve food with bacteria, but lactic



acid bacteria is a special class. According to Sandor Ellix Katz, fermentation expert and author of *The Art of Fermentation*, the acidifying bacteria produces inhibitory substances, including hydrogen peroxide, bacteriocins, and other antibacterial compounds, that many of the bacteria we fear most when it comes to food-borne illness—like *Salmonella*, *E. coli*, *Listeria*, and *Clostridium*—cannot survive.

Not only is food preserved by lactic acid bacteria, but it is also pre-digested, making the nutrients in it more readily available and, in many cases, creating new nutrients. “Ferments with live lactic-acid producing bacteria are especially supportive of digestive health, immune function, and general well-being,” Sandor says.

More good news: most fermentation doesn’t involve an extensive body of knowledge or precisely controlled environments—it is an ancient ritual humans have been performing for a very long time and a nifty little preservation technique worth utilizing come the zombie apocalypse.

Here is an overview of the key components:

## SUBSTRATE

In fermenting culture, “substrate” is the term used for the food being fermented—it is the medium that your microbial community is surviving on. Cabbage is the substrate in sauerkraut, grapes in wine, cucumbers in pickling, and apples in cider vinegar, for example.

## STARTER

Some ferments require the intentional introduction of microbes to get them started. Starters, or cultures, are used in ferments like yogurt, kefir, cheese, bread, and kombucha. However, the ferments covered in the following pages—sauerkraut, pickles, and honey fruit mead—require no starter at all. They rely solely on the microorganisms naturally present in and on the food itself in a process called “wild fermentation.”

## ENVIRONMENT

As mentioned, fermentation is the process of manipulating a food’s environment to encourage the growth of beneficial bacteria. Oxygen access, hydration, salinity, and temperature are all environmental variables we manipulate when fermenting, and as we change these variables, the microbial community in our ferment will change, evolve, and adapt in response. These changes in the microbial community are typically the result of a succession of dominant bacteria, each phase producing different visible and olfactory cues—fizzing and bubbling, for example, or yeasty, tangy, or vinegary aromas.

How you manipulate the environment will depend on what you want to ferment. Fermentation can involve submerging food in (an often salted) liquid to cultivate a community of anaerobic microorganisms, as is done with sauerkraut and pickles. Or it can mean exposing food to oxygen to cultivate a community of



oxygen-dependent bacteria, as is done with vinegar. Generally speaking, the higher the temperature, the faster the fermentation process will progress. At low temperatures (50°F or lower), fermentation slows significantly, which can extend the edible lifespan of your ferments. Darkness is another important environmental variable, as natural light can be harmful to many microbes.

## GEAR

You'll need containers in which to ferment. Traditionally things like ceramic crocks, glass jars, and wooden barrels have been popular, and some of these, like glass jars, will be quite easy to scavenge. Be sure to try to secure a variety of shapes and sizes—narrow necks are great for the *Honey & Blackberry Mead* (page 195) because they minimize the surface area exposed to air, while wide-mouthed jars or crocks are needed for vinegars because you want to maximize the amount of oxygen exposure. You'll also need weights to keep food within the containers submerged below the fermenting liquid and pieces of clean, breathable cloth to protect some ferments from insects and other debris while allowing the gases produced by the fermentation process to be safely expelled.

## READINESS & SHELF LIFE

The “readiness” of many simple ferments, like the sauerkraut, mead, and pickles

covered in the following pages, is a matter of personal taste. As microbial communities change and evolve, so too will your food. In the case of something like sauerkraut, some people enjoy their ferments fairly young, mild, and crunchy, while others prefer a longer ferment to develop deeper and more intense flavor or a different texture.

Because temperature is a major contributor to the speed at which your foods will ferment, storing your ferments in cool fridge-like temperatures can slow fermentation down to an almost imperceptible pace, thereby extending the life of your ferment almost indefinitely. In a world without refrigeration, however, can ferments go “bad” or wrong? The answer is yes; see *Fermenting Vegetables* (page 178) and *Imbibing at the End of the World* (page 192) for additional discussion and troubleshooting tips.

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**RECOMMENDED READING:** *Fermentation is a useful preservation technique for many foods not covered here: milk, grains, tubers, beans, seeds, and nuts to name but a few. However, when experimenting with more complicated fermentation processes, like beer making or curing meats, there is considerably more to know and consider. The Art of Fermentation by Sandor Ellix Katz is an excellent resource that no culinary-minded zpoc survivor should be without.*

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# Fermenting Vegetables

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All vegetables have the lactic acid bacteria (LAB) needed for fermentation naturally occurring in varying quantities on their surfaces, and so the process of fermenting vegetables, at its most basic, involves creating the right conditions for these beneficial bacteria to thrive, preserving and transforming the vegetable(s) in the process. Submerging the vegetable substrate(s) under liquid (either their own or in a prepared brine) creates the needed anaerobic environment where LAB dominate, crowding out mold and other unwanted oxygen-loving bacteria.

While the following pages offer basic direction and simple recipes, zpoc survivors will find themselves in much the same situation as our ancient fridge-less ancestors did: You will need to experiment to figure out what works best in your own microclimate and for your own specific food supply and resources.

Below is an overview of the process and troubleshooting tips for the new-to-fermenting zpoc survivor, featuring many nuggets of wisdom from Sandor Ellix Katz's fermentation bible *The Art of Fermentation*.

## WHAT TO FERMENT

All vegetables can be fermented, but not all vegetables ferment equally well. According to Sandor, members of the *Brassica*

family, like broccoli, Brussels sprouts, cauliflower, kohlrabi, and of course cabbage, are great for fermentation. Root vegetables like carrot, beets, radish, and turnips also ferment well. Vegetables with high water content (like zucchini or other such squash) tend to become soft and mushy quickly, and while they can be fermented successfully, they are better done in small batches and eaten quickly.

## FERMENTING WITH SALT

While salt is *not* an absolute requirement for fermentation of vegetables, it does provide beneficial lactic acid bacteria with a competitive advantage. It's an important flavor enhancer, even when used in small quantities, and also helps preserve a more pleasing texture by protecting the pectin molecules that give vegetables their crunch. Salt also slows the fermentation process, prolonging the edible shelf life of your ferments. Since fermentation processes speed up with rising temperatures, salt can be a very useful tool when you are faced with warm temperatures that are beyond your control.

There are two methods in which salt is generally used for veggie ferments: dry-salting and brining. Dry-salting involves applying salt directly to the substrate, to help draw natural juices from



a vegetable, in conjunction with thinly slicing or otherwise breaking down cell walls (see *The Extraction Method* below). Brining requires submerging the vegetables in a water/salt solution (see *The Brining Method* below).

If you do have access to salt, skip the common table (iodized) salt when possible, which can inhibit fermentation (see *Not All Salts Created Equal*, page 186). Instead, go for kosher or sea salts (see *Making Your Own Sea Salt*, page 325).

## THE EXTRACTION METHOD

For *Down & Out Sauerkraut* (page 181) or anything you'd like to ferment in its own juices, beating up your vegetables is a good



### SALT + WATER = BRINE

The best way to achieve a target salinity for brines is by working in weights (see *Salt: Weight Matters*, page 185)—but what to do when without a scale during the zombie apocalypse? Here's a quick reference guide to common measures of water and how much table salt is needed for a 5% brine:

- // 1 liter of water weighs 1 kilogram and gets 50 grams, or about 3 tablespoons, of salt
- // 1 quart of water weighs 2 pounds and gets 1.6 ounces, or about 2.5 tablespoons, of salt
- // 1 gallon of water weighs 8 pounds and gets 6.4 ounces, or about 10 tablespoons, of salt

idea. Not only is it an excellent way to get out any pent-up frustration not completely expended by brain bashing, but it also helps release the vegetable's natural juices for the fermentation process by breaking down cell walls. First, chop, dice, or shred the vegetables in question to expose more surface area. Then have at it—you can squeeze, pound, or otherwise bruise your veg. This can be done with any (clean) tool you like, but (clean) hands always work as well.

The aim is to extract enough liquid from the vegetables that, once put into the vessel, it covers them completely. Dry-salting your shredded vegetables will also help in extracting liquid. As a reference point, Sandor recommends 3 tablespoons of salt for every 5 pounds of vegetables, though this is entirely a matter of taste and can be increased or decreased as you please. If, after shredding, salting, and squeezing, your veggies aren't yet fully submerged, weigh them down for a few hours, then try squeezing again. If after 24 hours you still can't get enough liquid from them, you can cover them with a little clean water instead.

## THE BRINING METHOD

Brining is a good method if you want to ferment vegetables in large chunks, as in *Fermented Pickled Cucumbers* (page 187). Here, instead of extracting natural juices to submerge the vegetable(s), you mix up a salt-water solution for submerging. The strength of the brine is up to you, but a good rule of thumb is to use a 5% brine—that is, a



brine that is 5% salinity by weight (see sidebar on previous page for a quick reference guide).

When you taste a 5% brine, it may seem excessively salty. Using the same quantity in a dry-salt application would be entirely too salty for straight consumption, but because the salt in a brine pulls out liquid from the submerged vegetables via osmosis, increasing the total amount of liquid, the salt content is diluted.

Once you've consumed your ferment, the remaining brine can be used in any number of ways—as an all-purpose vinegar replacement in dressings, marinades, and more; as a starter culture for cheesemaking; or as a medium for soaking beans and grains.

## ADDING FLAVOR

Don't forget the flavor enhancers! Dip into the spice kit in your bug-out bag and get to experimenting. Dried oregano, red pepper flakes, juniper berries, caraway, dill, and celery seeds are all excellent spice options. So are black peppercorns, cumin seeds, coriander seed, fennel, mustard seed, whole clove, and allspice. In addition to adding flavor, spices can also act as mold inhibitors, slowing any growth that might occur on the ferment's surface.

Some excellent fresh flavor enhancers include ginger, scallion, and hot peppers. Fresh herbs from your window or rooftop farm could also be used, though their flavors tend to dissipate more quickly than dried.

## TIMING

Judging when your ferment is "ready" to eat is a matter of personal taste. After as

little as 3 days, your vegetables will have noticeably changed, remaining crunchy but taking on a mild and distinctly fermented flavor. However, since fermentation will primarily function as a mode of preservation in a zpoc context, you will probably need your ferments to last far longer. If you have access to a *Root Cellar* (page 190), a cold basement during the winter, or even a hole underground (see *Burying Your Bounty*, page 172), moving your ferments to a cold fridge-like place (35°F–38°F) once you deem them to be delicious will keep them stable and edible for several months or longer.

## TROUBLESHOOTING

Ferments are generally quite hardy, and there is little that can go so wrong with them that they become unfit to eat. Says Fred Breidt, a microbiologist for the US Department of Agriculture who specializes in fermentation, “Risky is not a word I would use to describe vegetable fermentation. It is one of the oldest and safest technologies we have.”

According to Sandor, however, if you have never fermented anything before, lots of things that happen naturally or are commonplace might *seem* to have ruined your ferment.

## SURFACE FOAM & MOLD

Surface foam and mold are both natural parts of the fermenting process. They will not spoil your batch and can simply be skimmed off.



## PINK FERMENTS

A pink-tint to your ferment indicates the growth of yeast, which typically thrives in ferments with high levels of salt (greater than 3% salinity). Your ferment is still completely safe to eat.

## FOUL SMELLS

Fermentation smells, well, funky, by many people's definition. This is totally normal! If you smell something truly revolting or putrid, it will usually be accompanied by serious and deeply penetrating surface growth. Depending on how deep the

offending growth has penetrated, you may be able to remove the offending layer and save the batch—be sure to overcompensate by digging out a few additional inches when removing the offensive growth!

## SLIMY FERMENTS

A thick, slimy, or gooey ferment usually indicates the abnormally quick growth of *L. cucumeris* and *L. plantarum* bacteria, which often happens in hot environments. It might just be a natural stage of your ferment's evolution that will dissipate over time, but if your ferment remains slimy over days or weeks, scrap the batch and try again in cooler weather.

# DOWN & OUT SAUERKRAUT

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Let's be real—if you have the ingredients, resources, and time to make sauerkraut, you're really not all *that* down and out. I mean, yeah, there's the whole zombie apocalypse collapse of society thing, but yay! You get to have sauerkraut!

Sauerkraut is definitely one of the simplest and easiest ferments, great for beginners (see *Fermenting Vegetables*, page 178). All it requires is some fresh cabbage, salt, and a little time for nature to do its thang.

The recipe here is a classic sauerkraut that can be adapted, switched up, and flavor bombed (think kimchi! See *Variation: Killer Kimchi* on page 182) as much or as little

as you like or as resources dictate. While this recipe calls for specific measurements of seasoning (salt and cumin), it really is a very “to your own taste” kinda deal—so experiment and have fun.

### YIELDS:

About 3 qt. of sauerkraut

### REQUIRES:

Chef's or survival knife and cutting board  
3 x 1-qt. ceramic crocks or glass jars  
1 large mixing bowl  
1 small bowl  
3 large pieces of clean breathable fabric  
String or large elastic bands



## TIME:

60 minutes prep

At least 3–5 days fermenting time

## INGREDIENTS:

5 lb. cabbage

3 tbsp. salt (preferably Kosher)

3 tbsp. cumin seeds (if available)

## METHOD:

① Before beginning, wash your hands. Thoroughly wash the crock(s) or jar(s) and all tools you will be using. If you do not have soap, sterilize the vessel(s) and tools in boiling water for 10 minutes before beginning.

② Remove the outer leaves of the cabbage, quarter each head, and remove the core. Thinly slice the cabbage, dropping it into a large mixing bowl as you go. With each addition, give the cabbage a quick squeeze to start the release of its liquid.

③ When you have about  $\frac{1}{3}$  of your cabbage cut, sprinkle with 1 tablespoon of salt and cumin seeds, then continue squeezing and pressing the cabbage to release enough liquid to submerge that amount of cabbage. This will take several minutes of squeezing. Drain off the liquid into a small bowl. Repeat with the remaining cabbage.

④ In several small additions, pack the cabbage into the jars or crocks very tightly to eliminate air pockets, adding back liquid to cover between each addition—as you fill the jars you may run out of liquid, this is OK. Leave 1–2 inches of headspace in the

container for the additional water content that will be released by the cabbage.

⑤ Cover the jars/crocks with the breathable fabric and secure with string or an elastic band. If after about 24 hours there has not been enough liquid released to cover the cabbage entirely, top the jars off with a salted water solution (salt content up to you). Put a small plate, a water-filled plastic bag, or some other weight inside the jar or crock to weigh down your kraut and ensure it remains completely submerged.

⑥ Replace the breathable fabric and secure. Store your kraut in as cool and dark as a spot as possible. If using a clear glass vessel, cover it with dark fabric to keep light out.

⑦ Taste it after a few (3–5) days. Once the kraut tastes good to you, you can start eating it. The remaining kraut will be perfectly safe left covered and fully submerged in its original liquid-filled crock. If stored in a cool (lower than 50°F) place, the kraut should stay relatively crispy and edible for many months.

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## VARIATION: KILLER KIMCHI

Kimchi, the quintessential Korean condiment that can be eaten with almost anything, is a simple but extremely tasty sauerkraut variation perfect for those who like a spicy kick and have access to some specific Asian seasonings. The most traditional seasonings found in kimchi include powdered hot peppers (also



known as Korean red pepper powder or kochukaru), garlic, onion and/or scallion, fish sauce, and ginger. The hot pepper powder is the backbone of flavor for this preparation and really has no substitute, but in the absence of fish sauce you could use the equivalent volume of a mild salt-and-water brine.

**TO MAKE:** Slice, rough chop, or julienne (your choice) 4 pounds of cabbage. Add to a large mixing bowl, salt heavily, then let sit for several hours, stirring occasionally. In the meantime, add about a gallon and a half (24 c.) of water to a large pot over medium-high heat. Add 2 tablespoons flour (traditionally rice flour though any glutinous flour would work) for every cup of water. Mix well and heat until

the water and flour mixture begins to thicken. Remove from heat and set aside to cool to room temperature. In a small bowl, mash 1 cup powdered hot pepper,  $\frac{1}{2}$  cup minced garlic,  $\frac{1}{2}$  cup of onion/scallion, 2 tablespoons fresh ginger, and  $\frac{1}{2}$  cup of light-amber fish sauce into a thick paste. Add to the flour/water mixture and mix until combined. Rinse off the excess salt from the cabbage and transfer the cabbage to the vessel you will ferment in, then add  $\frac{1}{2}$  pound carrot and  $\frac{1}{2}$  pound radish, thinly slice or julienned. Cover with the liquid seasoning and stir to combine. Taste and adjust seasoning if needed. Follow the same process detailed in the sauerkraut recipe to weigh down and cover the kimchi. Ferment for at least a week before tasting.

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# Zpoc Pickling

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When people think of pickled anything—cucumbers are the natural go-to, but also beets or green beans—they immediately think of brine, the salty, savory, and acidic liquid that many pickled foods are submerged in.

Brine is the cornerstone of pickling, but the process can be done through either fermentation or hot-water canning. Each method produces a vastly different result. The recipes that follow cover both methods—a traditional sour cucumber pickle using fermentation and a brined bean recipe using hot-water canning.

## PICKLING THROUGH FERMENTATION

Pickling through fermentation follows the general principles outlined in *Fermenting Vegetables* (page 178) but utilizes a prepared brine (as opposed to juices naturally extracted from the veggies) and is a useful method when you want to ferment large pieces of (or whole) vegetables.

Cucumbers are a natural choice for pickling, and a pre-zpoc food I for one will sorely miss munching on while standing in front of the fridge in my jammies. But according to fermentation expert Sandor Ellix Katz, cukes aren't the ideal candidate for fermented pickling. Don't misread this: They are still totally worthy of fermenting! But because of their already-high water content, coupled with the (hot) seasons during which they grow,

they tend to ferment rather quickly and become soft. You can combat this by adding grape, oak, cherry, or horseradish leaves to the ferment—anything that can give it a good shot of tannins.

Using the basic proportions of salt, water, and vinegar set out in the recipe for *Fermented Pickled Cucumbers* (page 187), you can ferment any number of vegetables—radishes, turnips, Brussels sprouts, cauliflower, carrots, onions, hot peppers, and eggplant, to name but a few. The addition of various spices can not only flavor your pickles, but also help further discourage unwanted bacteria; cinnamon, garlic, mustard seeds, and cloves have excellent antimicrobial properties.

## PICKLING THROUGH CANNING

If you're the carpe-diem type survivor, you may be too impatient to wait for fermented pickles, which can take anywhere from days to weeks. Canned pickles, however, rely on a punchier and stronger brine and can be ready in a matter of hours (especially when using soft and/or small veggies that will soak up the brine more quickly). Another added benefit to canned pickles? They last longer than their fermented cousins, especially in the absence of cool storage temperatures.

Because they don't undergo the same pre-digestive process that fermented



## SALT: WEIGHT MATTERS

The weight of salt varies from type to type, crystal size (or coarseness) to crystal size, and even brand to brand. This means that one teaspoon of kosher salt is not the same as a teaspoon of table salt in terms of the actual amount of sodium.

Why does the weight of salt matter? For most recipes where small quantities like a teaspoon or tablespoon are needed, the variance in weight (and therefore sodium content) is negligible and different salts can be used interchangeably without severe, or even noticeable, impacts. But in the case of food preservation (brining and curing, for example), the quantities of salt needed are much larger and the target level of salinity is far more important. Weighing your salt is the best way to ensure you hit the appropriate targets, and more often than not recipes will express salt in weights rather than measures.

Just in case you find yourself without a scale while running from skels, here are the cup equivalencies for several common types and brands of salt:

SALT	WEIGHT OF $\frac{1}{4}$ CUP (OUNCES)	WEIGHT OF $\frac{1}{4}$ CUP (GRAMS)
Morton's Table Salt	2.6	76
Morton's Pickling Salt	2.6	74
La Baleine Coarse Sea Salt	2.4	67
La Baleine Fine Sea Salt	2.3	65
Diamond Crystal Kosher Salt	1.6	45
Morton's Kosher Salt	2.2	62

Adapted from: <http://www.dadcooks dinner.com/2012/02/salt-by-weight.html>



pickles do, canned pickles are crispier. You will find that some vegetables (like beets or the green beans in *In a Dilly of a Pickled Beans*, page 189) are better off blanched first, as they will remain too crunchy or

tough to eat with a hot-water pickling. Unlike brines used for fermenting, brines for canned pickles should be nice and hot when added to the veggies to encourage good penetration.



# Not All Salts Created Equal

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Along with other pre-zpoc relics like firearms, seeds, and Twinkies, salt is going to be one of those items you should grab whenever possible. But when you're using it for more than sprinkling on your fries or seasoning your guacamole, the world of salt gets a lot more complicated. Here is an overview of the different types and uses of salt:

## TABLE SALT

Table salt is a highly processed and refined form of sodium chloride containing added iodine and anticaking agents. While table salt is useful for general seasoning and often used for curing meats, it can impact the texture, flavor, and overall quality of canned foods. It can also inhibit fermentation.

**USE FOR:** *General seasoning, curing*

## KOSHER SALT

Kosher salt is a coarser and (typically, though not always) additive-free form of sodium chloride. It has a much larger crystal size than table salt and derives its name from its use in removing surface blood from meats during the koshering process. Kosher salt can be used for most applications, though its coarseness should be considered when substituting in recipes calling for regular or finer salts (see *Salt: Weight Matters* on page 185).

**USE FOR:** *General seasoning, curing, fermentation, canning*

## SEA SALT

Unlike table and kosher salts, which come from salt mines, sea salt is produced by the evaporation of seawater. Sea salt is also primarily composed of sodium chloride but may contain other minerals. The mineral makeup of sea salt varies with the locale from which it is produced, resulting in differing flavors and appearances. Sea salt is commercially produced in both fine and coarse grains.

**USE FOR:** *General seasoning, curing, fermentation, canning*

## PICKLING SALT

Pickling salt is a very fine-grained form of sodium chloride. Like both kosher and sea salts, it contains no added iodine or anticaking agents. Because of its fine grain, it dissolves very quickly, making it ideal for pickling brines or any other solutions needing salt.

**USE FOR:** *General seasoning, canning, fermentation*

## CURING, OR PINK, SALT

Curing salts are a very specialized product used in the preservation of meats. Sodium nitrite and (sometimes) nitrate are added to regular table salt to inhibit harmful bacteria like Clostridium botulinum, which causes botulism. They also help meat retain its red color through the curing process and enhance its meaty flavor. Because these salts are needed in



very small quantities and can be lethal in large quantities, they are typically colored pink so as to distinguish them from table salt. Follow package directions carefully.

**USE FOR:** Dry-curing or brining only

## FERMENTED PICKLED CUCUMBERS

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If you never tried fermented cucumbers pre-zpoc, then you will be in for a treat. Unlike many canned pickles, fermented cucumbers tend to be a little more interesting in the flavor department—slightly acidic with a nice little sour kick and a texture not as crisp or crunchy as their canned cousins. Fermented cucumbers also rely far less on vinegar than do the canned variety.

When fermenting cukes, it is best to use extra-crunchy varieties specifically bred for the purpose—Kirby, Little Leaf, or Country Fair for example—because the high water content of most cucumbers causes them to become mushy over long periods of fermenting. However, the process can be done with any variety and the onset of mushiness delayed with a handful of tannin-rich grape, cherry, oak, or horseradish leaves.

### YIELDS:

10 pickles



### REQUIRES:

- Chef's or survival knife and cutting board
- 1 small pot
- 1 large (18–21 qt.) pot
- 1 pair of tongs
- 1 wide-mouthed funnel or ladle
- 2–3 x 1-pt. or 2 x 1-qt. glass canning jars or ceramic crock(s) (or the equivalent in other sizes)
- 2 or more swatches of clean breathable fabric
- String or large elastic bands



## **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* (page 42)

## **TIME:**

30 minutes prep

At minimum, 3–5 days fermenting time

## **INGREDIENTS:**

8 c. clean potable water

3.5 oz (100g) salt, preferably pickling or kosher, (see *Not All Salts Created Equal*, page 186)

¼ c. vinegar, preferably white

10 pickling cucumbers, such as Kirby, rinsed well

Fresh dill, if available, to taste

Fresh garlic, if available, to taste

1–2 fresh chili peppers, cut into rings

Peppercorns, if available, to taste

1 handful fresh grape, cherry, oak, and/or horseradish leaves, if available

## **METHOD:**

① Set up a cooking fire or other *Stove-top Hack*. You can sterilize the jars and equipment you will be using in boiling water if you'd like or feel it would be prudent (if, for example, you are working in a space that was highly trafficked by the undead), but if you have soap and hot water with which to wash them, that should be enough.

② In a small pot, bring half the water and all of the salt to a boil. Remove from heat, then add the rest of the water and the vinegar. Set aside and allow the

mixture—your brine—to cool to ambient temperature.

③ Using clean hands or tongs, pack the cucumbers, dill, garlic, chili peppers, peppercorns, and leaves into the jar(s).

④ Cover the cucumbers in each of the jars with brine, making sure there is enough liquid to cover them completely while also leaving 1–2 inches of headspace. Put a small plate, a water-filled plastic bag, or some other weight inside the jar or crock to make sure everything stays completely submerged.

⑤ Cover each container with a swatch of breathable fabric, and secure with a rubber band or piece of string to keep out unwanted visitors.

⑥ Store in a cool, dry place out of direct light. Check daily and change the covering if it becomes damp. Skim off any scum or mold that might develop on the surface, and top up the jars as needed with a solution of equal parts potable water and salt.

⑦ Test a pickle after about 10 days (or as soon as 3 days in hot weather). If they taste good to you, then they are ready to eat! Otherwise, continue fermentation until they are where you like them. They will not “spoil” per se, but they will eventually, after about 3 weeks or so, become noticeably soft—see *Troubleshooting* (page 180) for more information on evaluating your ferment. Store in cool (50°F or lower) temperatures to slow the fermentation and extend the shelf life.



# IN A DILLY OF A PICKLED BEANS

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Take a classic treatment of cukes and apply it to green beans and what do you get? Dilly beans. OK, so I am not reinventing the wheel with this recipe—dilly beans are a classic home pickling favorite that make use of the more contemporary method of pickling whereby a high-acid vinegar and salt brine plus canning is used for long-term preservation (see *Zpoc Pickling*, [page 184](#)).

Storing vegetables long-term via canning proves to be better than fermenting for vegetables with a high water content like cucumbers and green beans, which otherwise tend to get mushy relatively quickly. But using canning to pickle vegetables requires a certain level of salinity and acidity, so if you are missing either salt or vinegar, you might be better off fermenting!

The basic brine in this recipe can be used on almost anything, from spruce tips in the spring, to nasturtium seeds (“poor man’s capers”) in the summer, to beets in the early fall, and can easily be adapted based on the vegetables and seasonings you have on hand.

## YIELDS:

4 pt. of canned beans

## REQUIRES:

Chef’s or survival knife and cutting board

1 large pot, 18–21 qt.

1 medium pot

4 x 1-pt. (or the equivalent in other sizes) glass canning jars with lids and metal threaded screw tops

1 pair of tongs or jar lifter

1 large mixing bowl

2 clean kitchen towels or other pieces of fabric

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* ([page 42](#))

## TIME:

30 minutes prep

1 week pickling time

## INGREDIENTS:

2 lb. green beans, rinsed well and trimmed to fit jars with  $\frac{3}{4}$ " headspace  
3 c. potable water, plus more for blanching  
3 c. vinegar, preferably white, though white wine vinegar or cider vinegar will also work

6 tbsp. sugar

$\frac{1}{4}$  c. plus 1 tbsp. (90 g) pickling salt, or  $\frac{1}{2}$  c. kosher (see *Not All Salts Created Equal*, [page 186](#))

8 lightly crushed fresh garlic cloves, divided

8 sprigs fresh dill, divided

2 tsp. black peppercorns, divided

4 tsp. red chili flakes, divided

## METHOD:

① Start a cooking fire or other *Stovetop Hack*. Add enough clean potable water to fill a large pot about  $\frac{2}{3}$  of the way full, then set on high heat to boil. Once boiling,



blanch the beans for about a minute. If you have access to cold water and/or clean ice, shock the beans in a large bowl to prevent further cooking and to preserve their color.

② Using the same large pot and water, sterilize and prepare the jars and other tools for canning as per the instructions in *Canning* (page 168).

③ In a medium pot, bring 3 cups water, vinegar, sugar, and salt to a boil, at which point the sugar and salt will have completely dissolved. Remove from heat and set aside to cool slightly.

④ Using tongs, remove the jars, lids, and screw tops from the hot water, shaking as much excess water off as possible, and lay upside-down to dry on a clean towel.

⑤ With thoroughly washed hands or tongs, divide the garlic, dill, peppercorns,

and chili flakes among the empty but still-warm jars. Next add the trimmed beans, making sure there is about  $\frac{3}{4}$  inch of headspace at the top of each jar. Divide the brine among the jars, pouring over the beans to cover completely and leaving about  $\frac{1}{2}$  inch of headspace. Place a lid on top of each jar and twist on the screw tops.

⑥ Add the jars back to the large pot and bring to a rapid boil, processing the jars for 10 minutes once you reach the boil.

⑦ Lay the hot jars out on towels in a cool, dark place where they can rest for 24 hours without being moved or crowded together. Test each jar by pressing down in the center of the lid; if it still pops/clicks up and down, the jar has not sealed properly. These jars are still safe to eat right away, but cannot be stored. Store sealed jars in a cool, dark location.

## Building a Root Cellar

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Long before the advent of modern refrigeration there were simple root cellars—underground storage used to put up root crops, apples, cheese, and other hardy perishables for the winter, as well as for short-term storage of perishables like meat.

Any root cellar relies on three things for its food preservation abilities: low temperatures, ample ventilation, and high humidity. The best root cellar will be at least 10 feet deep, where the underground

temperature remains a reasonably stable 55°F–60°F regardless of weather; cold temperatures also slow the release of ethylene gas and the growth of microorganisms, both of which cause fruits and vegetables to rot. Hardwood is the best material to use for walls, shelving, and doors, as it is not much affected by nor will it affect the temperature inside.

Adequate ventilation is needed to preserve foods and to take advantage of lower

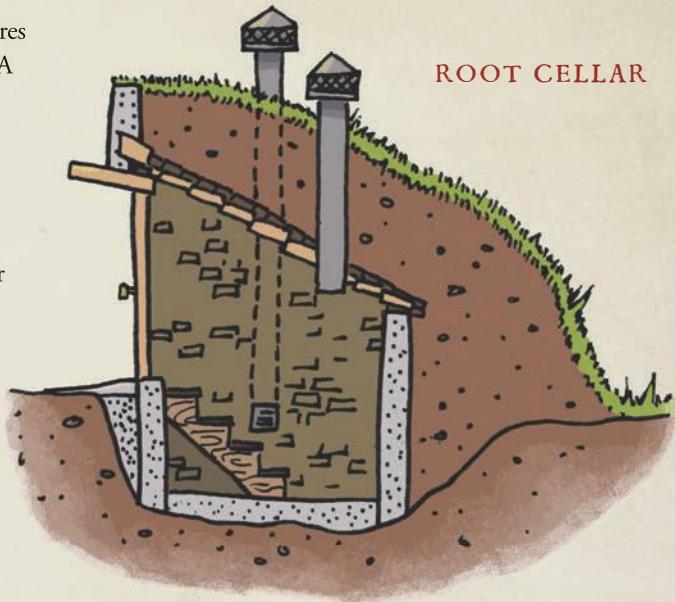


aboveground temperatures during colder seasons. A simple two-pipe siphon system will aid in temperature control not only by drawing in heavier, colder air and allowing lighter, warmer air to escape, but also by moving the ethylene gas that causes spoilage out of the cellar.

To create a siphon, run two pipes from above-ground through the earth and into the cellar.

One pipe should terminate high up in the chamber, about a foot from the ceiling, while the other should terminate about a foot from the floor. You should protect the open top of each pipe with a little screen and a slanted roof to keep out insects, animals, debris, and precipitation. If temperatures dip below freezing, you can close off one (or both) of the pipes to maintain above-freezing temperatures in the cellar.

Humidity is the final variable that needs to be monitored—fruits, veggies, and most cheeses are best stored in a high level of humidity, 85%–95%. If you can rustle one up, a hygrometer—which measures humidity—is a useful cellar addition. Earthen floors will aid in keeping moisture



## ROOT CELLAR

levels up, and by adding a good thick layer of gravel, you can increase humidity by soaking the floor as needed without creating a muddy mess. Canned goods can also be stored in the cellar, though the higher humidity needed for fresh foods can cause metal lids and screw tops to rust—this can be remedied by creating a two-chamber cellar or two completely separate cellars with one dedicated to canned goods.

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**RECOMMENDED READING:** *For more on building and storing foods in root cellars, check out Root Cellaring by Mike and Nancy Bubel.*

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# Imbibing at the End of the World

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While I would not recommend facing a full-on horde while under the influence of intoxicants (no besotted brain bashing, please!), I do wholeheartedly support the crafting of fine alcoholic beverages during an undead uprising. Granted, you won't have much time or desire to get hammered during the initial stages of the outbreak. Once things have settled and you have found yourself in a relatively stable situation, though, all you need is access to some fruits and sugar or honey, and you can ferment some lovely alcoholic beverages. Because really, who wants to live in a undead world devoid of booze? Not. Me.

There are many different ways to go about making alcoholic beverages, and over the centuries we have boiled it down to a science. Home wine making and beer brewing is fairly commonplace pre-zpoc, a DIY market all unto itself replete with its own gadgetry and specialized equipment. But making palatable (and even downright tasty) alcoholic beverages can be incredibly easy. Meads, wines, and ciders can all be made with a few basic ingredients and a surprisingly simple method—so that even in the midst of humanity's downfall, you can still kick back with a bevy at the end of a long day.

## SIMPLE FERMENTED BEVERAGES

### MEADS

The simplest of all alcoholic zpoc concoctions is a straight mead, made from water and raw honey. Why raw honey? Because it contains that key ingredient needed for fermenting sugars into alcohol: yeast. A 4:1 ratio of water to honey is a good rule of thumb.

Meads can be so much more than honey and water, however! Especially if you have access to fresh and beautifully ripe fruits from your rooftop farm or a reliable scavenging locale like a fruit farm or someone's backyard cherry or apple tree. Fruits, especially those with edible skins, are also an excellent source of fermenting yeasts in the absence of raw honey. The amount of fruit you add is up to you and will probably depend on what you have on hand and can afford to use. Berries and other small fruits can be added to the mix whole; for larger fruits, rough chop them into smaller pieces first.

### WINES

Not surprisingly, given the pre-zpoc prevalence of wine, grapes are one of those fruits perfect for fermenting. They contain an ideal balance of sugars, acids, and tannins

to keep yeasts happy, and their skins are rich sources of yeast—so rich in fact that fermentation begins almost immediately after the grapes are crushed. So if you grow or stumble on grape vines during the zpoc, harvest the grapes when they are full and plump. Put whole bunches (stems and all) into the vessel you will use to ferment them and crush those suckers good. If you want a white wine, press the juice from the skins, stems, and pulp as soon as the mashed mixture begins to froth (usually a couple of hours or so) and let the juice ferment on its own. For red, let the whole mash ferment together longer—a few days—before pressing out the liquid to continue fermenting on its own.

## CIDER & PERRY

Cider is fermented apple juice, while a perry is fermented pear juice. Both are delicious and fairly straightforward to make. Apple and pear trees are more likely finds than other fruits in a scavenging mission, and even if an apple or pear tree produces fruit that is too sour or mealy to eat, chances are it can still produce a decent beverage. The main challenge in making cider or perry is in pressing the juice out of the fruit. This is best done by finely chopping then mashing whole fruits, and then, as with grapes, pressing the juice out of them once the mash gets foamy. It will take a lot of fruit to get a little juice, so these kinds of ferments are really only viable when you have an abundance of apples or pears.

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**RECOMMENDED READING:** Because beer making, or fermenting alcohol from the complex carbohydrates of cereal grains, is a much more involved practice than meads, wines, and ciders, it might be difficult to do in a zpoc setting, and I will not get into the nitty-gritty here. However, if you are interested in learning more, check out *How to Brew: Everything You Need to Know to Brew Beer Right the First Time* by John J. Palmer.

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## HOW TO MAKE SIMPLE MEADS

### 1. Mix all ingredients together in a wide-mouthed vessel, stirring frequently.

Once you add all mead ingredients to the fermenting vessel, stir contents vigorously until a nice thick layer of bubbles appears on top, then securely cover with a breathable cloth. Continue to stir your mixture several times daily, as aeration will continue to stimulate the yeast's activity. The fermentation will typically happen in stages, especially if the sugar source contains both fructose and glucose, as honey does. The first phase of fermentation will sort of be like the initial stages of the zpoc. You will see a lot of action happening in the form of bubbling and brewing as the ravenous yeast devours the glucose. The feeding frenzy will start and peak quickly, over the span of several days.



## *2. Strain fruit and transfer to narrow-necked vessel, then close off with air lock.*

Follow your nose: Once the yeasty stage has passed and your brew smells sweet and pleasant, you can strain out the fruit. Don't toss that fruit—you can eat it straight or cook/bake with it! Depending on the type of fruit, the optimal window for its removal can come and go in as little as a day, after which point the fruit will start to sour and negatively impact your brew, so close attention is needed through this first phase.

Once the fruit has been removed, you can drink the fruity, young, and lightly alcoholic “green” ferment if you’d like, or ferment it further to produce a higher alcohol content. If you want to continue the fermentation process, when you strain off the fruit, transfer the remaining liquid to a narrow-necked vessel. Something like a carboy or a bail-top bottle works well to minimize the surface area exposed to air, useful because the ferment now hosts air-loving bacteria that can turn it into vinegar if given a steady oxygen supply.

An air lock is also needed to allow the gas produced during fermentation out while preventing air from getting in to the vessel. You can easily air lock any vessel by placing a balloon or even a condom over the top. Alternatively, you can drill a hole into a cork and insert a line of plastic tubing through it; the end not in the vessel should rest in a jar or glass filled with water. Top up your vessel with a 4:1 mixture of water to sugar/honey to raise the liquid level to the bottle’s neck,

again to minimize the amount of liquid exposed to air. This new liquid, and the aeration from the transfer, will also kick off another bout of bubbly fermentation.

## *3. Rack to remove lees and top off again if needed.*

Once this second stage of bubbling has subsided completely (a few weeks to a couple of months), it is time to “rack” your bevy—that is, remove the spent yeast, known as the “lees,” that will have fallen to the bottom of the vessel. Pour off the ferment into a second vessel until you see the slightly thicker opaque lees just starting to emerge. The lees are totally consumable and vitamin rich; you can drink them, add them to soup or tea, or bake them into bread. Once they’re removed, transfer the bevy back to the vessel and either drink up or top it up again with a 4:1 ratio of water to sugar mixture and let it do its bubbly thang once more.

## *4. Once the second ferment has stopped, bottle then age.*

When this active bout of fermentation is done (a few weeks to a few months), the fermentation should be complete—in ferment lingo, you will have fermented “to dryness,” which means all available sugars will have been converted to alcohol. You can drink up at this point, and if you have a large quantity, you can bottle the excess and store for further aging. Some ferments become *much* better with aging, so if your ferment tastes less than great at this point,



try aging it! But be sure that the fermentation has stopped before bottling—active fermentation creates gas that in turn creates pressure. This pressure can cause dangerous explosions in airtight bottles. And you don't want to be *that* guy/girl—the one who survived throngs of undead predators long enough to make their own mead, only to be killed by a stray bottle cap.

## HONEY & BLACKBERRY MEAD

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As covered in *Imbibing at the End of the World* [page 192], mead can be made with little more than water and raw honey. Fermentation expert and author of *The Art of Fermentation* Sandor Ellix Katz offers a 4:1 water to honey ratio as a flexible rule of thumb for straight honey meads. When using very sweet fruits, he suggests cutting this ratio down to 5:1 or even 6:1.

While raw honey ups the active yeast content of your mead—the key ingredient for converting sugars into alcohol—any fruits with edible skins used in the initial ferment will provide yeast as well, meaning that, for fruit meads, you could use pasteurized honey, granulated sugar, or another sweetener instead. Commercially made dry-active yeast could even be sprinkled in to help things along in raw honey's absence.

### YIELDS:

About 1½ gal. of mead

### REQUIRES:

Chef's or survival knife and cutting board  
A large wide-mouthed glass or ceramic vessel, to hold 1½ gal. of liquid  
1 large (or several smaller) carboy or bail-top to hold 1½ gal. of liquid  
Large wooden spoon or other tool for stirring  
Balloon or other improvised air lock

### TIME:

30 minutes prep  
Approx. 1 week for initial ferment  
Approx. 6 months for a strong mead

### INGREDIENTS:

1½ gal. clean water  
6 c. raw honey  
8 c. blackberries, washed thoroughly

### METHOD:

- ❶ Add 1½ gallons of clean water to your fermenting vessel, allowing it to come to ambient temperature if needed. Add the honey and stir until it is completely dissolved (this may take a few minutes). Reverse the direction of your stirring every so often to aerate the water and honey.
- ❷ Add the berries to the honey/water mixture and give a good stir again.
- ❸ Weigh down the berries with a clean plate, a clean plastic bag filled with water, or some other weight, to ensure they are completely submerged.



- ④ Cover the vessel with a breathable cloth and secure it from critters with a string. If your vessel is transparent, cover it with a dark fabric to keep out light.
- ⑤ Stir the mixture several times daily. You will soon see active foaming and bubbling and detect a yeasty aroma—this is a good sign!



- ⑥ Once the initial foaming and bubbling has subsided and you detect a sweet, pleasant smell, strain off the fruit. You can eat it or incorporate it into baked goods.
- ⑦ You can also drink your lightly alcoholic sweet “green” mead now. However, if you’d like to continue the fermentation process to yield a more alcoholic beverage, transfer the liquid to a narrow-necked vessel, like a carboy. If the liquid does not reach the bottom of the neck, top it off with some additional water/honey mixture. Air lock the vessel with a balloon, condom, or other improvised air-locking top.
- ⑧ The aeration caused by transferring the ferment to a new vessel, plus any added liquid, will kick off another round of active fermentation. Once this second round subsides (6–8 weeks or so), siphon the liquid into another narrow-necked vessel, leaving behind the dead yeast that has settled at the bottom (the lees). Top up again if needed, and secure with an air lock. Once this last round of bubbly fermentation subsides, you can bottle the mead for aging in clean jars with screw tops or other well-fitted caps, or enjoy in its current state if you’d like.



# Drying, Smoking, Curing, & Brining

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Catching wild animals, particularly for the uninitiated zpoc survivor, will not be easy. Even when you are able to hunt down some meat for supper, you will probably not have a surplus in need of preserving. Nonetheless, knowing how to put up meat and fish is a handy zpoc survival skill and might become quite useful as you become a more proficient hunter and head out *Into the Wild* (page 251).

The preservation of meat poses more of a challenge and carries more risk than that of fruits and vegetables, as meat and fish offer virtually no carbohydrates—a nutrient that in fruit and vegetable preservation allows the usual lactic acid bacteria and yeasts to flourish and out-compete potentially harmful pathogens.

Instead, meat preservation relies on creating conditions in which harmful bacteria like *Salmonella*, *E. coli*, *Listeria*, *C. Botulinum*, and other *Clostridium* are outcompeted or inhibited from growth in other ways. The low-tech methods at your disposal include drying, smoking, curing, and brining. These methods can also be used in concert—meat/fish can be dried without curing, cured then smoked and dried, or cured and smoked without completely drying—you get the picture.

## DRYING

Drying meat deprives potentially harmful bacteria of the water they need to function.

Since flesh does not dry instantly, there will always be some level of incidental unwanted microbial activity, but when drying is done right, this activity will actually enhance the flavor and texture of the meat with no ill effects to the eater. Natural drying using sun and wind is best done in sunny, windy, and cold climates or seasons—see *Food Preservation in the Wild* (page 280) for more.

## SMOKING

Smoking is another way of drying meat, often used in warm and humid climates where meat would spoil before it had a chance to dry out on its own naturally. Smoking is also used heavily pre-zpoc as a means of flavoring meats (see *A Post-Apocalyptic Smoker's Wood Guide*, page 201). When meat is smoked, “the sugars in cellulose . . . break apart into many of the same molecules found in caramel with sweet, fruity, flowery, bready aromas,” says food scientist and author Harold McGee. But little do most backyard barbecueurs know that smoking has an added benefit: It imparts antimicrobial and antioxidant properties to the meat, too. Smoke also slows the oxidation of fat, which is what causes dried meats to become rancid (and is why fat should be trimmed off meats before drying out completely; see *Food Preservation in the Wild*, page 280, for more).



## DRY-CURING, OR SALTING

Dry-curing is the direct and heavy application of salt to meat or fish for preservation. The salt draws out moisture through osmosis and deprives harmful bacteria of water, as well as inhibiting the growth of certain bacteria and enzymes. Curing can be done for a short period before the meat is cooked, like with bacon. Or salted meats can be hung and aged for longer periods and then consumed raw, like with prosciutto. Curing can also often involve the use of sugar and other seasonings to help flavor the meat. It is best done in cool and dry climates or seasons, or in a cool subterranean root cellar kept at less than 50°F (see *Building a Root Cellar*, page 190) with a humidity in the 60%–65% range. If you live in a particularly warm climate or it is the summer, dry-curing is not a good way to preserve meat—the warm temperatures will cause the meat to spoil before the salt has penetrated enough to protect it.

The term “curing” often implies the use of curing salts like pink salt (sodium nitrite and nitrate). These curing salts kill harmful bacteria and help the meat maintain its red color, along with creating a more “meaty” flavor. Curing salts may be hard to come by during the undead uprising, and aren’t generally required for curing whole pieces of meat because the meat below the surface will be untouched by bacteria anyway. It’s much more often used in ground meat products, like sausage, where bacteria that was on the surface of meat is ground and mixed into the whole

batch. When stuffed into casings, sausage provides a great environment for bacteria to thrive in: dark, moist, and full of food.

Curing is a closely related cousin of “salting,” and in fact the terms are often used synonymously, though “salting” more typically implies drying in conjunction with a long salt cure, as with salt cod and prosciutto. When salt is used as the primary means of preservation for long periods, foods generally become extremely salty and are best used sparingly in soups, stews, and sauces for flavoring or else soaked to remove excess salt before consuming (as with *Everything’s Going to Be Salt Cod Korokke*, page 225).

A general rule of thumb for dry-curing is to use 6% salt by weight of meat, so for a 10-pound piece of meat you would use 0.6 pound (about 10 oz. or 272 g) of salt. Rub the salt (and any other seasoning or flavor enhancers you might be using) directly onto the meat and put it into a nonreactive pan or container. Cover it well to keep out bugs and store in a cool place (below 50°F). Drain and flip it every few days until 15% of its weight has been lost (about 2 days per pound). Once you’ve hit that 15% mark, rinse off the cure and cook before consuming. Or you can age the meat further by rinsing off the salt, covering it in lard, and hanging it in a cool place wrapped in breathable fabric like cheesecloth for about 6 months or until it’s lost  $\frac{1}{3}$  of its original weight. At this point the meat can be enjoyed like a prosciutto, uncooked and thinly sliced.



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**RECOMMENDED READING:** *For more on salting, curing, and drying, check out Charcuterie: The Craft of Salting, Smoking, and Curing by Michael Ruhlman.*

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## WET-CURING, OR BRINING

Wet-curing, also known as brining, is a great way to tenderize tough cuts of meat like brisket or tongue. The brining process works hand in hand with low and slow cooking methods (like braising or smoking) to yield a more succulent and tasty final product.

Fermentation expert Sandor Ellix Katz recommends a brine solution consisting of 10% salt and 5% sugar by weight of water—since 1 quart of water weighs approximately 2 pounds, this equates to 3.2 ounces (91 g) of salt and 1.6 ounces of sugar per quart. Brines are also often flavored with any number of add-ins: garlic, bay leaves, ginger, or spices like cloves, juniper berries, or allspice, for example.

In the absence of refrigeration and in temperatures higher than about 68°F, the brining process should be carefully monitored and done for no more than 8 hours; otherwise, the meat runs a high risk of becoming a little funky (i.e., starting to spoil). The higher the temperature, the stronger the brine should become, and the shorter the soak time to prevent harmful microbial development.

# SQUIRREL JERKY

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No clever name for this recipe—this here be straight-up zpoc survival fare. Because there is so little meat on squirrels and because if you have no previous hunting experience it will be very hard to catch them (see *Urban Hunting & Foraging, page 99*), you will probably not need to preserve the meat. However, if you happen to find yourself with a Daryl Dixon in your survivor group, this recipe could come in handy.

The dry-smoking method described here is a simple and easy way to preserve meat, and the same principles and techniques can be used for just about any animal protein you might get your hands on during the zpoc. If you can be choosy, use only the leanest cuts of meat or trim off all excess fat, as fatty meats will go rancid over time. To enhance flavor, you can add herbs, salt, sugar, and spices if you have them. If you don't, simply smoke and dry the thinly sliced meat as it is.

This recipe employs a low-tech smoke teepee and smudge fire for smoking (see *Bushcraft & Improvised Cooking Implements, page 272*)—if you have a proper smoker at your disposal, use it, or, you could make use of low heat (about 150°F; see *Judging Temperature, page 47*) in an *Earth Oven* (page 269) for several hours.

### YIELDS:

About 1 lb. of jerky



## REQUIRES:

Chef's or survival knife, boning knife, and cutting board  
Wooden teepee structure for hanging meat  
1 small bowl  
1 large bowl

## HEAT SOURCE:

Indirect, *Smoke Teepee* (page 273) or other *Oven Hack* (page 44)

## TIME:

30 minutes prep  
1–2 days smoking and drying time

## INGREDIENTS:

3 tsp. salt, preferably kosher  
2 tsp. sugar, preferably brown or demerara  
2 tbsp. paprika, sweet or smoked or a combination  
2 tbsp. ground black pepper  
2 tbsp. ground cayenne pepper or other ground hot pepper  
2 lb. squirrel meat, thinly sliced into long strips along the grain of the meat

## METHOD:

① Gather tinder, kindling, and fuel for a fire, with ample fuel to keep it burning low for about 2 days—the aim is to dry the meat while smoking it, not cook it with heat. If you can be choosy about the wood you use, try to get maple or birch, but do make sure it is a hardwood because resinous woods like pine and fir will ruin the meat (see *A Post-Apocalyptic Smoker's Wood Guide*, opposite). Chop the equivalent of about 8

cups of this wood down into small 1-inch chunks, then cover with clean potable water in a large bowl and set aside.

② Gather three sturdy-looking forked sticks to construct the smoke teepee's outer frame, and another three (or more) sturdy sticks to hang your meat from.

③ Construct the outer frame of the teepee, then about 2–3 feet up from the bottom attach the other 3 sticks between each of the legs of the teepee—these will serve as racks to hang your meat from. If your pieces of meat are not big enough to drape over the sticks, you can create a grate or cross-thatched surface with twigs to lay the meat on.

④ In a small bowl, mix together the salt, sugar, paprika, black pepper, and cayenne. Dip each piece of meat into the mixture and rub it into the meat lightly. Wash your hands thoroughly before and after handling the meat!

⑤ Set up a low and sprawling fire at the base of the teepee and light it. When it is burning nicely, add some of the soaked wood, then drape the meat over the sticks. Drape the teepee in large, leafy nonpoisonous branches to help keep the smoke in and critters out. Monitor the fire to make sure it does not get too high or hot; replenish fuel as needed.

⑥ Smoke the meat for 24–48 hours, until it is dry, dark, and curled. It should last anywhere from 2 to 4 weeks, and is edible until it starts to soften and smell rancid. Store in a cool, dry, and dark place.



# A Post-Apocalyptic Smoker's Wood Guide

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Smoking foods is an excellent way of preserving them, removing the moisture that otherwise enables their spoiling.

Hardwoods are the woods to use when smoking food! Softwood from coniferous trees like pine and fir are resinous and make foods taste rancid when used for smoking, or even open-flame cooking.

Hardwoods most commonly found throughout North America:

- ★ **APPLE** is very light in flavor while giving food a mild sweetness, making it good with poultry and pork. However, note that apple will discolor chicken skin (it turns it dark brown). Apple trees can be found across most of the United States and southern Canada.
- ★ **BIRCH** has a flavor similar to maple that works well with pork and poultry. Birch trees are most abundant in the northern United States and much of Canada.
- ★ **CHEERY** has a sweet, mild flavor that goes great with virtually everything, making it one of the most popular woods for smoking. Cherry trees can be found throughout the United States and southern Canada.

★ **HICKORY** adds a strong flavor to meats, so be careful not to use too much of it or mix it with other milder woods. It's especially good for beef and lamb. These trees are most abundant in eastern North America. See *It's Autumn, Go Nuts!* (page 275) for identification.

★ **MAPLE**, like the fruit woods listed here, gives food a sweet flavor that pairs well with poultry and pork. Maple is found across the United States and much of Canada.

★ **OAK** is strong but not overpowering in flavor. It's probably the most versatile of the hard woods, but is particularly good for beef or lamb. There are over 60 varieties of oak growing throughout most of North America. See *It's Autumn, Go Nuts!* (page 275) for identification.

★ **WALNUT** has a heavy, smoky flavor and should be mixed with milder flavored woods. Most walnut trees are found in the eastern United States and southeastern Canada.

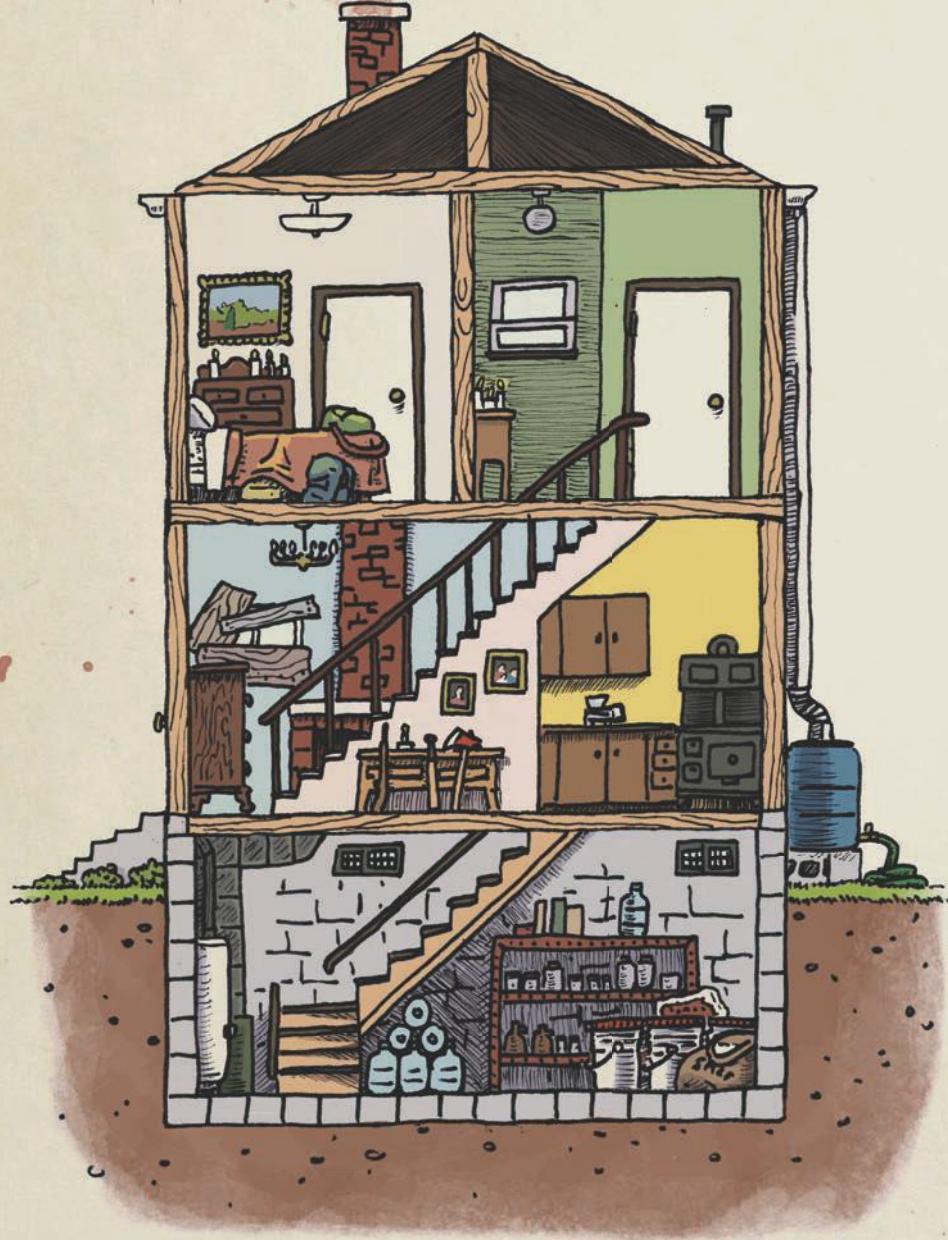
When using woods to flavor food, as with a *Smoke Teepee* (page 273), chop up into small 1-inch chunks and soak 30 minutes or more before spreading over the already active fire.







# COOKING IN THE WELL-STOCKED SAFE HOUSE



## **FAILURE TO PREPARE TO SURVIVE IS A DECISION NOT TO SURVIVE.**

—C. L. Hendricks

*So you fancy yourself a seasoned prepper? Or perhaps you want to dip your toe into the pool of emergency preparedness?*

*Whether furnishing a secondary location or preparing your current domicile for an extended stay during the zombie tsunami, if you want to plan ahead for the coming undead uprising, this section is for you. In the following pages, you will find an overview of the essential supplies, equipment, and considerations for living in a well-stocked safe house (WSSH).*

*And by “well-stocked” I don’t just mean baked beans and Spam. You’ll likely be surprised at the variety of foods that can be tucked away for end times. Nearly everything you once enjoyed pre-zpoc is available in a shelf-stable canned, jarred, dehydrated, vacuum-packed, or freeze-dried format for your prepping convenience, from fruits, vegetables, and meats, to all forms of dairy (even cheese!). The best approach for all aspects of prepping is to have a plan B, a course of action or system to fall back on. When it comes to stocking food for your safe house, this means having a variety of freeze-dried foods (many of which BTW—fruits, vegetables, and cooked meat—can be eaten as they are but are much more palatable with rehydration), and dehydrated foods, and canned foods.*

*Having said that, not all prepper foods are created equal. The recipes in this section will showcase shelf-stable foods in some of their best applications, from simple rehydration to sautéing, baking, and stewing.*

# A Hydrated Survivor Is a Happy Survivor

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Needless to say, store some *water!* Under the bed, in the closet, under the stairs, or in the garage: wherever you have room. Water is pretty much your number one concern during the zpoc—without it you have roughly 3 days to live. But your aqueous survival plans should be far more robust than stashing a few gallons of Poland Spring in the basement. (See also *Water*, page 12, for more on finding and purifying water.)

## WATER COLLECTION & STORAGE METHODS

### WATERBOB®

The waterBOB® is a water bladder for your bathtub. As soon as you see your neighbor frantically running and screeching down the block with no face, pop this sucker into your tub and fill it up. It stores 100 gallons (or enough water for 1 person for 100 days).

### RAINWATER COLLECTION

If you live in a house, you can make use of the large surface area on your roof, the gutters, and downspouts to collect and store water in large modified plastic drums or garbage cans.

### WHAT YOU WILL NEED:

- ★ Large plastic barrel, drum, or garbage can with lid

- ★ Sharp knife or shears
- ★ The downspout from your roof
- ★ Window screen
- ★ Hose bib (optional)
- ★ Plumber's putty (optional)

- ① Find a large plastic barrel or garbage can with lid—avoid any container that may have housed industrial chemicals or other harmful materials and be sure to clean it out thoroughly. Dark-colored containers are best for keeping out light and minimizing the growth of algae or harmful bacteria.
- ② Make a hole in the top or lid of the container for water from the downspout to flow into. Cover this hole (from the inside if possible) with window screen to keep mosquitoes and other debris/bugs out.
- ③ Poke another hole or two on the side of the container near the top for overflow and cover securely with more screen.
- ④ Shorten your downspout to accommodate the height of your container. It should terminate about 2 inches above the container so that the water can drain over the screen-covered hole made in step 2.



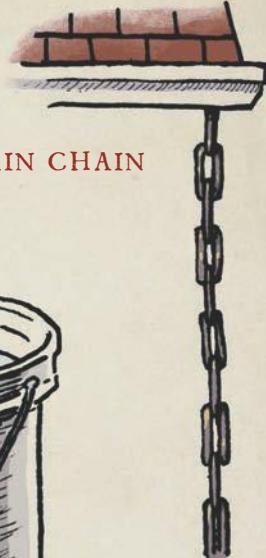
- ⑤ To add a spout (rather than popping off the lid to take water as needed): Cut a hole the size of the hose bib (spout) near the bottom of the barrel. Put the hose bib in and seal with plumber's putty.
- ⑥ Place container on the ground under the downspout and pray for rain. Treat any water collected before consuming.

If you live in an apartment or other dwelling with no gutters or downspouts, then you will need to set up containers (like food-safe buckets for example) over a large area on your balcony and/or the building's roof to collect water. A rain chain suspended above the bucket gives the rainwater a more efficient means of getting into the bucket and can be made from simple scavengable materials. Alternatively or additionally, you can rig up clean plastic tarp to act as a catchment surface, elevated and angled so that the water will drain down into a bucket or container.

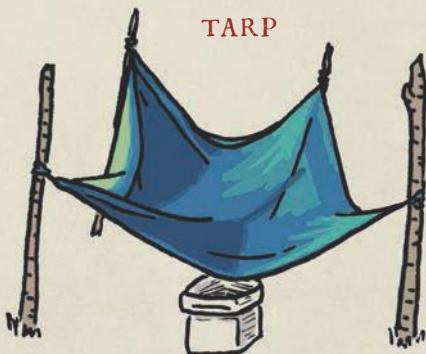
RAIN CHAIN



BUCKET



TARP



BARREL



## HOME WATER FILTRATION SYSTEM

Investing in a filtration system for the end times is invaluable, but a Brita just won't cut it. You will need something that can filter out harmful bacteria and zombie germs, is portable, and can be hooked up to water storage and collection containers (rather than your tap, which will have run dry). Makers like Sawyer offer very high-quality purifiers that will remove any and all harmful bacteria and can be fitted to a bucket or other container. Their entire Point ZeroTWO™ bucket system, which can purify up to 170 gallons a day, packs up compactly and is very lightweight, so that, if necessary, it can be brought on the run.

## LONG-TERM STORAGE OF WATER

Store water in previously unused completely opaque food-grade plastic containers and keep it in a cool, dark, and dry place. Over the long term, if the water is sitting unused and you are not regularly rotating it (see *Time Is a Flat Circle* above), then you should pretreat your water with chlorine. Buy a bunch of pool testing kits and maintain a level of 3–5 parts per million, or about 8 drops per gallon. If you are using municipally treated water and rotating it regularly, then the chlorine levels already in the water should be sufficient. Rotate water stores frequently to keep things fresh.

## TIME IS A FLAT CIRCLE

In prepper jargon, rotation means keeping water and food stores fresh by using them in day-to-day life. Often nonperishable foods purchased for emergency preparedness are stashed in a cool, dark closet and forgotten about. If no reason to use them (yay!) presents itself, they will likely sit there until their useful life is expended and they have to be thrown away. Paying attention to rotation ensures you will always have an optimal stash on hand.



## BLASPHEMOUS BAKED CAULIFLOWER

The combination of cauliflower, cheese, and bacon is by no means revolutionary, but it is damn tasty and easy to prepare. This particular recipe will put up the hackles on most culinary cognoscenti: freeze-dried vegetables covered with rehydrated cheese and canned bacon? Really?! Yes.

Not all canned, freeze-dried, and hydrated foods are created equal; the trick is in knowing what applications best suit each product. I much prefer freeze-dried vegetables to dehydrated ones in any dish that's not undergoing a decent cook time or when the vegetable is the main component



of the dish (such as this recipe). Freeze-dried cheese, when you get the rehydration technique down, is actually a pretty palatable substitute. It can be melted or mixed in to most dishes calling for grated cheese (burritos, pizza, baked dishes). And believe it or not, canned bacon isn't disgusting. It's certainly not as good as the thick-cut double-smoked high-quality varieties available pre-zpoc, but it is a must-have addition to any long-term storage plan.

This recipe is adapted from "Cheesy Cauliflower & Bacon Gratin" by Barney Desmazery, appearing in the April 2010 issue of *Good Food* magazine.

#### **YIELDS:**

2 Hungry Survivor servings, 4 Regular Joe servings

#### **REQUIRES:**

Chef's or survival knife and cutting board  
1 large bowl  
1 large plate  
*Dutch Oven* or 1 heat-proof metal baking dish (7" x 11")

#### **HEAT SOURCE:**

Indirect, *Dutch Oven* or other *Oven Hack* ([page 44](#))

#### **TIME:**

10 minutes prep  
25 minutes minimally attended bake time

#### **INGREDIENTS:**

5 strips canned bacon  
1½ c. freeze-dried cheese

2 c. freeze-dried cauliflower, rehydrated as per package directions  
Drizzle of oil, preferably olive  
Salt & pepper, to taste  
½ c. breadcrumbs, preferably panko

#### **METHOD:**

- ① Set up a cooking fire. When you have an ample supply of embers, preheat a *Dutch Oven* (if using) or set up another *Oven Hack* for 400°F baking (see *Judging Temperature*, [page 47](#)).
- ② In the meantime, roughly chop the bacon and set aside. On a large plate, rehydrate the cheese (see *Rehydrating Freeze-Dried Cheese* on [page 213](#)). In a large bowl, rehydrate the cauliflower as per package directions.
- ③ Drain excess water from the cauliflower and cheese, making sure the cauliflower is relatively dry before proceeding. Toss the cauliflower with a drizzle of oil and add salt and pepper to taste.
- ④ Lightly grease the bottom and sides of the *Dutch Oven* or other roasting dish, then spread the cauliflower out on the bottom. Cover with the cheese, then sprinkle with bacon bits and breadcrumbs.
- ⑤ Cover and add a few embers to the lid of the *Dutch Oven*, or put the roasting dish into the *Oven Hack* uncovered. Check after about 15 minutes and bake for an additional 5–10 minutes if needed, until the topping is golden brown and crunchy. Remove from heat and let stand 5–10 minutes before eating.





## TAKE THE BURRITO HIGHS WITH THE LOWS

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This recipe takes 2 totally gnarly-sounding ingredients, freeze-dried meat and a pathogenic corn fungus, and makes them into a delicious bunker burrito—no joke. Frying up freeze-dried meats with onion

and spices is one of the best ways of making them less shelf-stable-esque. The “corn mushroom” huítlacoche is actually a popular ingredient in Mexican cooking—quesadillas, burritos, and soups will often



feature its interesting earthy and slightly exotic flavor. This ugly-looking fungus often impacts corn crops and is largely viewed as blight (“corn smut”) by North American farmers, and as a result huītlacoche has never really taken off among American eaters or cooks. But you can find it in specialty grocery stores or online for your pre-zpoc stocking needs—it will bring a little pizzazz to your WSSH stores and this burrito.

#### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings

#### REQUIRES:

Chef’s or survival knife and cutting board  
3 medium bowls  
1 large plate  
1 large sauté pan  
Wooden spoon or other stirring utensil

#### HEAT SOURCE:

Direct, *Rocket Stove* (page 77) or other *Stovetop Hack* (page 42)

#### TIME:

10 minutes prep  
10 minutes attended cooking time

#### INGREDIENTS:

1 c. freeze-dried chicken, ground beef, or Textured Vegetable Protein (TVP)  
2 tbsp. freeze-dried onions  
1 c. freeze-dried cheese  
2 tbsp. oil  
½ tsp. ground cumin  
½ tsp. chili powder  
1 tbsp. freeze-dried garlic

#### THE APOCALYPSE WILL NOT BE FREEZE-DRIED

It’s all fine and good to stock yourself up for the gruesome downfall of society, and I will be the first to recommend freeze-dried fruits, vegetables, eggs, dairy, and meat as halfway decent substitutes during the culinary lean times. Plus they are pretty straightforward: cover with water to rehydrate and off you go.

But I feel it prudent to point out the ever-so-important other part of the freeze-dried equation: water. Being the precious life-sustaining resource that it is, you can bet that water will be hard to come by during the zpoc—and reconstituting freeze-dried or dehydrated foods uses a lot of it.



½ c. powdered sour cream  
4 flour tortillas (see *Flour Tortillas*, page 214)

1 small can huītlacoche  
2 tbsp. pickled jalapeño, roughly chopped  
Hot sauce of your choice, to taste

#### METHOD:

① Set up a *Rocket Stove* or other *Stovetop Hack*. Rehydrate the protein and onion in separate bowls using warm water as per package instructions. In the meantime, rehydrate the cheese on a large plate (see *Rehydrating Freeze-Dried Cheese*, page 213).



- ② Heat a large sauté pan with oil over medium-high heat. Drain off excess water from the onions and protein, setting aside for soup making, watering plants, or some other appropriate reuse.
- ③ Sauté the onions 2–3 minutes, until soft and slightly browned. Add the protein and sauté an additional 2 minutes or so until browned. Clear some space in the pan by pushing aside the protein and onion, then add the cumin and chili powder to this cleared space and toast, stirring continuously, until fragrant. Add the garlic to the pan, then mix the cumin and chili powder into the other ingredients and cook another minute or so. Remove from heat and set aside.
- ④ Reconstitute the sour cream in a bowl and spread onto the tortillas. Add a thin layer of huítlacoche on top of the sour cream. Divide the protein evenly among the tortillas, then top with cheese and pickled jalapeños. Season with hot sauce to taste. Roll up and enjoy.

## It's a Grind

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While it's great to include milled and ready-to-use flours as part of your prepper stores, most milled flours have a far shorter shelf life (only up to a year) than do whole grains like wheat, rye, or spelt, which, when stored properly, can last for many years. To produce flour in your safe house, just mill your stored whole grains with a hand-cranked grain mill. A well-made, high-quality hand-cranked grain mill will last for years and is worth investing in. Good models will allow you to grind flour anywhere from very coarse to very fine, and can handle "oily grains" like nuts, seeds, and coffee beans (*Yes!* You can have decent coffee during the zpoc! See *Don't Let the Zpoc Be a Buzzkill*, page 218).

Wheat-based flour is the workhorse in most North American baked goods. There

are hundreds of varieties of wheat, but in North America they fall into 6 major classes:

- ★ Hard Winter Red
- ★ Hard Spring Red
- ★ Soft Winter Red
- ★ Hard Winter White
- ★ Soft Spring White
- ★ Durum

Hard red and white wheats are good for yeast-based bread making, while soft wheats are ideal for cakes, pastries, and other more delicate baked goods. Durum is the hardest of all wheats and is most often used in commercial pasta making.

In addition to wheat, you can include other grains, like rice, spelt, rye, amaranth, quinoa, barley, farro, or Kamut. But be



aware: depending on the gluten content of the grain and on what you are making, nonwheat flours may need to be blended with wheat flours. For example, grains with a low gluten content like rye can be used on their own to make bread but are often blended with wheat to increase the gluten content and produce a less-dense loaf.

When putting up your grain for long-term storage, the biggest problems you will face are light, oxygen, moisture, and bugs. All grains should be packed into Mylar bags with oxygen absorbers and sealed into heavy-duty food-grade plastic buckets with Gamma Seal or screw-on lids. All these and additional supplies for emergency prepping can be found through various online suppliers.

Depending on where you get your grain, it will either have been produced for human consumption or, as with the vast majority of grains, for animal consumption. Grain produced for animal consumption is often sprayed with fungicides and pesticides, so be sure to find out the origin of the grain and wash if needed.

Store grain in a cool, dark place, and you will have bread, pizza dough, cake, cookies, and other baked goods for years after the zombies have wiped out your local bakery or grocery store.

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**RECOMMENDED READING:** *To get your head around working with whole grains, check out Kim Boyce's book Good to the Grain: Baking with Whole Grain Flours.*

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## REHYDRATING FREEZE-DRIED CHEESE

It's true, freeze-dried cheese is just not the same as real cheese. It's not thick creamy slices of Brie or stinky wedges of Taleggio. It's not even a slice of cheddar on a Ritz. But I, for one, am very grateful it exists.

When used in the right ways and properly rehydrated, freeze-dried cheese is basically as good as commercial shredded cheese. The only trick is not ending up with a huge glop of wet cheesy mess. Here's how:

1. Spread cheese out thinly on a dinner plate or shallow pie plate.
2. Sprinkle the cheese liberally with *cold* water and let rehydrate for about 2–3 minutes. Cold (or, at worst, room temp) water will help it maintain its structural integrity and prevent it from clumping together.
3. Give it a little toss and spread it thinly again.
4. Leave it to rehydrate another 2 minutes or so.
5. Drain off water by tipping the plate slightly—avoid using a strainer so your cheese won't clump together. Lay a piece of paper towel (if available) over top and let sit another minute or so before using.



# FLOUR TORTILLAS

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Tortillas are a versatile food for surviving the uprising of flesh-hungry corpses. You can roll stuff up in them to munch on the run, top them like a flatbread for a no-fuss no-muss face stuffing, or use them to mop up after saucy foods in the absence of cutlery.

While corn tortillas are, many would argue, superior to flour both in terms of flavor and nutrition, the flour tortilla has corn beat in simplicity of ingredients and ease of preparation. Once you discover how simple it is to make your own (and how much better they taste than store-bought), you will see the flour tortilla is the only tortilla you need during the zpoc.

## YIELDS:

4 tortillas

## REQUIRES:

1 small mixing bowl  
1 large mixing bowl  
1 large sauté pan  
Wooden spoon or other stirring utensil  
Clean kitchen towel  
1 rolling pin, or wine/hair spray bottle  
covered in plastic wrap

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
(page 42)

## TIME:

10 minutes prep

30 minutes unattended resting time  
20 minutes attended cooking time

## INGREDIENTS:

1½ tbsp. powdered shortening  
1 c. all-purpose flour, plus more for dusting  
¼ tsp. salt  
Up to ¼ c., plus 2 tbsp. warm water  
Cornmeal for sprinkling

## METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*. In a small mixing bowl, reconstitute the shortening powder with ¼ teaspoon warm water. It takes some time for the powder to pick up the water, so keep mixing until it forms a thick paste. If after thorough mixing it still seems too dry, add just a few drops of water and mix again.
- ② To a large mixing bowl containing the flour and salt, add the reconstituted shortening and gently work in the fat with your fingers until it is uniformly broken down into small grain-sized pieces and the flour takes on a uniform crumbly texture. Add ¼ cup of water and stir with a fork or wooden spoon until the flour starts to come together into a ball. If it seems too dry, add the remaining water in parts, at most one tablespoon at a time, mix until incorporated, and repeat if necessary. The dough should not be wet or sticky to the touch, but it should hold together and form a shaggy ball.

- ③ Turn the dough and any remaining chunks of flour out onto a floured surface and knead a few times until it comes



together completely. Divide the ball into 4 sections, roll each lightly into a ball, then cover with a clean kitchen towel and let rest for 30 minutes.

- ④ Preheat a pan over medium-high heat. Working on one tortilla at a time, sprinkle a work surface and the top of the ball with cornmeal. Flatten the ball into a disk then roll out into an 8-inch circle—err on the side of too thin rather than too thick. Keep the remaining balls of dough covered as you work.
- ⑤ Lay the rolled tortilla into a hot, dry pan and cook for 30–45 seconds per side or until you see light brown spots dotting the surface—do not overcook when using for burritos, as they will dry out and become difficult to roll. Let each tortilla

### IN QUESO FUNDIDO OF LEFTOVERS

Made too many tortillas? Let leftover tortillas dry overnight or toast them lightly until crunchy, then serve them with a quick queso fundido. Sauté  $\frac{1}{2}$  cup reconstituted onion with 1 can mixed tomato and green chili (such as RO\*TEL brand) and 3 glugs tequila (if available) until most of the liquid has dissipated. Add 3 cups reconstituted cheese and stir until melted. Serve immediately.



cool slightly before stacking. Keep lightly covered until you are ready to use to prevent them from drying out.

## Tips for Long-Term Food Storage

Whether freeze-dried, dehydrated, canned, vacuum-packed, or what have you—light, extreme temperature fluctuations, and moisture are the 3 archenemies of your food stores. Stash foods in a dry, dark place with an ideal temperature range of 40°F–60°F, and you will get the most longevity out of your stores.

Make sure all foods put up for long-term storage are protected from light, moisture, oxygen, insects, and vermin by storing

them in proper containers—durable food-grade buckets, barrels, or Mylar bags that can be tightly sealed by vacuum packing or with Gamma Seal or screw-on lids. Add oxygen-absorbing packs to further extend the life of these foods. Grains can be frozen then defrosted before storing to kill any critters that might be hanging around and could destroy the stores.

Rotate the foods you store: that is, use them regularly in cooking and replenish



them as needed—that way you avoid wasting your stores and just throwing them out when they expire.

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**RECOMMENDED READING:** *For more on storing foods long-term and general emergency preparedness, check out the Emergency Food Storage & Survival Handbook by Peggy Layton.*

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## I NEED SOME TLC TVP CHILI

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Textured vegetable protein (or totally valuable protein in the zpoc context) is a dehydrated soy-based product that is both high in protein and fiber. Being much cheaper than freeze-dried and dehydrated meats, it is cost effective; plus it's very lightweight and portable. When stored in cool, dry, and dark conditions it has a long shelf life (about 10 years unopened or one year once opened), and it's very quick and easy to prepare.

There are a wide variety of TVP products out there varying in size (chunks to ground) and flavors ("chicken," "beef," and "ham"), but I deem the best use of TVP to be in the ground format for dishes like chili, sauces, sloppy joes, and tacos. It can be pretty tasty, too. In a big old comforting bowl of chili, you'd never know it falls firmly in the "fake meat" category.

### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings

### REQUIRES:

1 large pot (about 8 qt.)  
1 wooden spoon or other stirring utensil

### HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

### TIME:

10 minutes prep  
40 minutes mostly unattended  
cooking time

### INGREDIENTS:

3 tbsp. vegetable oil  
¼ c. dehydrated onion, rehydrated as per package directions  
½ c. TVP of your choice, rehydrated as per package directions  
½ c. dehydrated bell pepper  
¼ c. dehydrated jalapeño  
1 tbsp. freeze-dried garlic  
1 tbsp. cumin seed  
3 tbsp. chili powder  
½ tsp. cayenne pepper  
2 c. water  
¼ c. dehydrated celery  
¼ c. dehydrated corn  
¼ c. dehydrated diced tomato  
1½ c. dehydrated beans, preferably a mixture, or 3 c. cooked/canned  
1 tbsp. brown sugar  
2 tsp. oregano  
2 tsp. salt, to taste



- 1 x 28-oz. can crushed tomato, or 4 c. water with 4 tbsp. of tomato powder
- 4 tbsp. powdered sour cream
- 4 tbsp. freeze-dried cheese

### METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*.
- ② Heat oil in a large pot over high heat. Shake off as much excess liquid as possible from the rehydrated onion and TVP. Add the onion to the hot pot and sauté until it starts to brown—this typically takes longer than with fresh onion, about 5 minutes. Add the TVP and sauté until it also starts to brown, another 5 minutes or so.
- ③ Add the dehydrated bell peppers, jalapeño, and garlic to the pot and stir until fragrant. Push the mixture to the side and add the cumin seeds to the empty part of the pot. Toast until browned, stirring constantly, about 1 minute.
- ④ Stir the vegetables and TVP into the toasted cumin seeds, then add the chili powder and cayenne and stir until combined. Add 2 cups of water, then simmer for a minute or two until the liquid has reduced slightly.
- ⑤ Add the remaining vegetables, beans, brown sugar, oregano, salt, and canned tomato (or tomato powder and water, if using). Lower the heat and simmer for 30 minutes or until the beans are tender, adding more water in  $\frac{1}{4}$ -cup increments if the chili becomes too thick.
- ⑥ While the chili is simmering, rehydrate the sour cream and cheese (see *Rehydrating Freeze-Dried Cheese*, page 213).
- ⑦ Taste the chili and adjust seasoning if needed. Serve hot, topped with sour cream and cheese.

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**NOTE:** If using any canned beans or vegetables, add to the pot only for the last 10 minutes of cooking.

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### VARIATION: LET'S HAVE A FIVE-WAY

If you have instant ramen packets in your WSSH stores (which I hope you do; see *The End of Ra-Man*, page 80), then pay homage to our fallen comrades in Cincinnati and make it a “five-way”: Serve the chili up on plain cooked ramen noodles.

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# Don't Let the Zpoc Be a Buzzkill

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"I am such a zombie without my coffee": a pre-zpoc cliché, a post-zpoc reality—well, for me and the millions of other coffee-addicted souls out there, anyway. Symptoms of coffee withdrawal can include headache, fatigue, sleepiness, difficulty concentrating, and general grumpiness—all major downsides when your world is teeming with zeds.

Even if you don't have an outright dependency on the dark emperor, there are many upsides to stocking up: the obvious perks of heightened concentration and boosting of energy, the comfort to be had from a nice hot mug in your hands, the aroma, the taste—all of that. But perhaps most importantly, coffee is a majorly valuable barter item.

Now, getting your coffee stores in order is not quite as simple as going out and buying a bunch of #10 cans of Folgers, popping them into the storage space or basement, and patting yourself on the back for being a clever prepper. No, from both a shelf-life and quality perspective, you'd be far better off sourcing and storing green coffee beans, then roasting and grinding them yourself. Here is a rundown on how to do the long-term coffee storage thing.

## BEANS

So, you can't just pick up the pre-roasted, pre-ground stuff. You gotta get whole green beans. Why? Because all the flavor and character of coffee is in the precious oils locked

into beans. The roasting process stimulates the release and development of these delicate and fleeting oils, which dissipate quickly after roasting. The grinding process further degrades them and expedites their evaporation. The release and evaporation of these oils happens in a process called off-gassing. In fact, vacuum-sealed ground coffee is actually allowed to go stale before packaging—otherwise the can would burst from the off-gassing.

Whole green beans (when stored properly; see below) will last anywhere from 2 to 5 years whereas a #10 can will last for at most 2 years and won't be nearly as good as fresh roasted and ground beans. Plus, you'll save scrilla on roasting and grinding the beans yourself.

## STORAGE

Light, heat, moisture—green coffee beans are subject to the same vulnerabilities as most other foods in your WSSH. Store loose beans with oxygen absorbers in 5-gallon food-safe buckets lined with Mylar. You can also pack beans into small-quantity Mylar bags to avoid having to open a large quantity at once, then pack the Mylar bags into a food-safe bucket. Since green beans don't off-gas, vacuum sealing is also an option.

## ROASTING

In a world without electricity, there is really only one option for roasting beans—the



low-tech and old-school method of using a skillet over direct heat.

Heat a dry cast-iron skillet over high heat to 500°F (put your oven thermometer in the pan if you have one; otherwise, see *Judging Temperature*, page 47), then add an even layer of beans. The process is akin to toasting nuts in a pan—they need to be watched at all times and stirred in order to get a nice, even roast. Keep stirring, and the beans will go through a noticeable progression: yellowing, steaming, first crack, caramelization, second crack, and darkening.

The beans are ready for consumption any time after the first crack, which is signaled by a fragrant steam and an audible crack coming from the beans and should take anywhere from 5 to 10 minutes. From here, experiment with varying levels of additional roasting to nail down your preference, but remember to keep a keen eye on your beans because, like nuts, they can go from perfectly roasted to burned very quickly.

Be sure to pull your beans off the heat before they reach the level of roast you actually want because the residual heat in the beans will continue to roast them even after they are off the heat. Dump them onto a cookie sheet or into a colander and continue to stir them until they are warm to the touch. The chaff should have fallen off the beans by this point, and you can just blow it off. The beans will reach their peak flavor about 24 hours after roasting, so start a cycle for roasting your coffee a day in advance.

## LATTER-DAY PREPPERS

A zombie apocalypse might not be what Mormons had in mind with the phrase “latter-day,” but you gotta give it up to them for their preparedness, a vestige of their pioneer past. Many Latter-Day Saint churches operate Home Storage Centers where church members and the general public can purchase foods such as powdered milk, dried beans, wheat, and rice at extremely reasonable prices then properly package them in vacuum-sealed pouches and #10 cans provided on-site for long-term storage. Home Storage Centers are scattered throughout the United States, with a few centers in eastern Canada as well. Visit [providentliving.org](http://providentliving.org) for a list of locations.



## CONSUMING

Grind your beans with a hand-powered grinder as needed. Not only will a hand-cranked grinder be kinder to the lovely flavor-producing oils, but it will help you develop extra forearm strength for fighting off them undeads.

You will also need a powerless method for brewing the coffee, preferably a French press, but a camp-style coffee-pot works too. If you want to be precise, heat your water to 190°F for optimal extraction. Allow the coffee to steep for about 5 minutes before plunging or straining and consuming.



# LIFE IS NOT JUST PEACHY-BLUEBERRY COBBLER

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Got some freeze-dried fruit? Walkers still trying to eat you? Make some cobbler. Damn right.

## YIELDS:

2–3 Hungry Survivor servings, 4–6  
Regular Joe servings

## REQUIRES:

Dutch Oven or rectangular metal pan  
(7" x 11")  
2 large mixing bowls  
1 small mixing bowl  
1 mixing spoon  
1 spatula

## HEAT SOURCE:

Indirect, Dutch Oven or other *Oven Hack*  
(page 44)

## TIME:

10 minutes prep  
30–40 minutes unattended baking time

## FILLING INGREDIENTS:

2½ c. freeze-dried peach slices

12 c. freeze-dried blueberries or other suitable companion, such as cherry or raspberry

3 tbsp. white sugar

1 tbsp. flour

1 tbsp. dried ground lemon peel

## BISCUIT INGREDIENTS:

¾ c. plus 2 tbsp. all-purpose flour  
½ tsp. baking soda  
½ tsp. baking powder  
8 tbsp. powdered butter  
3 tsp. water  
6 tbsp. granulated sugar  
½ c. powdered scrambled egg mix  
reconstituted with ⅓ c. water  
¼ c. reconstituted buttermilk

## METHOD:

① Set up a cooking fire. When you have an ample supply of embers, preheat a *Dutch Oven* (if using) or set up another *Oven Hack* for 350°F baking (see *Judging Temperature*, page 47).

② In a large bowl, reconstitute the freeze-dried fruit for about 5 minutes or so, then pour off the excess water from the fruit and save for later use.

③ Start the biscuits: In a small bowl, combine the flour, baking soda, and baking powder. Set aside. Reconstitute the powdered butter with 3 teaspoons of water in a large mixing bowl. It should have a thick texture similar to butter at room temperature. If it is too runny, add more powder to adjust. If it is too thick, loosen it with a few drops of water at a time. Add the sugar and beat by hand with a wooden spoon until



light and creamy, about 3 minutes. Add the reconstituted scrambled egg and mix gently until blended.

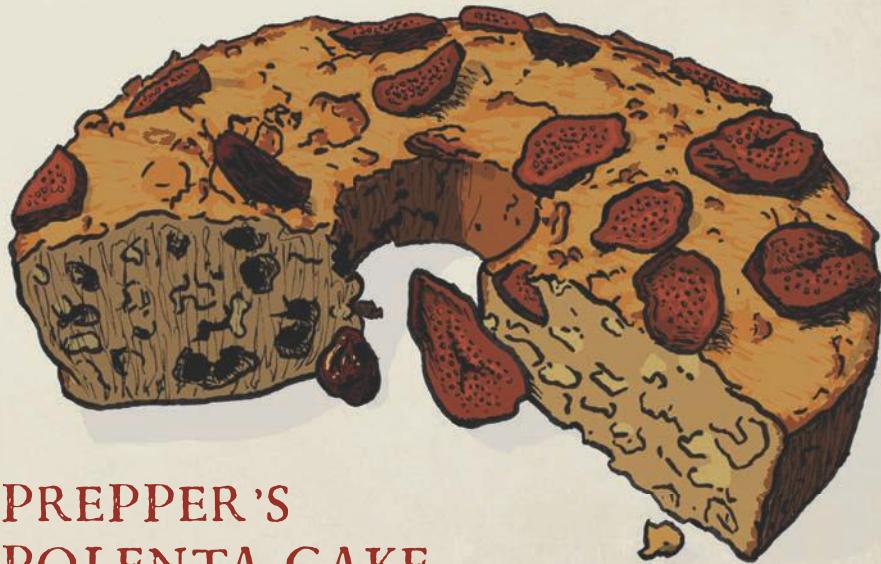
④ Add the dry ingredients to the butter/sugar/egg mixture in thirds, alternating with the reconstituted buttermilk. After each addition, stir until all ingredients are just combined. You should now have a thick and scoopable biscuit dough.

⑤ Toss the fruit with the 3 tablespoons of sugar, flour, and dried ground lemon

peel. Pour the fruit mixture into the *Dutch Oven* and spread evenly along the bottom. Scoop the batter onto the fruit mixture, trying to divide into 6 separate scoops (which will become 6 biscuits).

⑥ Bake for 30–40 minutes or until the topping is cooked through and browned and the fruit is bubbling.

⑦ Let cool for 15 minutes before eating, using that time to contemplate just how *not* peachy life is (though this cobbler sure is!).



## PREPPER'S POLENTA CAKE

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This dense and moist Italian cake features polenta (aka cornmeal) and breadcrumbs along with dried fruits and honey and has a texture similar to a clafoutis or bread pudding. Traditionally *bustrengo* was

cooked in the embers of a fire after dinner, and you can achieve the same result in your safe house using a *Dutch Oven* or nestling a metallic baking pan into fire embers. And when wrapped, it keeps well,



making it a good cake to pack for scavenging missions.

If you don't have apples, raisins, and figs on hand, you can easily swap in other dried fruits.

#### **YIELDS:**

1 x 9" cake

#### **REQUIRES:**

*Dutch Oven* or 9" metal cake pan, lightly greased and floured

1 large mixing bowl

1 medium mixing bowl

1 whisk

1 wooden spoon or other stirring utensil

#### **HEAT SOURCE:**

Indirect, *Dutch Oven* or other *Oven Hack* (page 44)

#### **TIME:**

10 minutes prep

60 minutes unattended cooking time

#### **INGREDIENTS:**

2/3 c. polenta

1 1/2 c. flour

3/4 c. plain breadcrumbs

3/4 c. sugar

1 tsp. salt

1 tsp. ground cinnamon

Equivalent of 3 large eggs, reconstituted and beaten lightly

1/4 c. olive oil

1/2 c. honey, or 1 c. granulated sugar plus an additional 2 tbsp. of milk

2 c. reconstituted dried or UHT milk  
(see opposite page)

3 c. rehydrated freeze-dried diced apples, drained very well

6 oz. dried raisins

6 oz. dried figs (3 oz. rough chopped, 3 oz. sliced in half, tough stems removed)

1/8 tsp. lemon oil

1 tsp. ground lemon peel

Powdered sugar, for dusting

#### **METHOD:**

① Set up a cooking fire. When you have an ample supply of embers, preheat a *Dutch Oven* (if using) or set up another *Oven Hack* for 350°F baking (see *Judging Temperature*, page 47).

② Mix together the dry ingredients in a large mixing bowl: polenta, flour, breadcrumbs, sugar, salt, and cinnamon. Whisk together the eggs, oil, and honey in another mixing bowl until well combined, then add to the dry ingredients, mixing with a spoon or spatula until just incorporated. Add the milk and stir until smooth; the batter will be wet and relatively runny.

③ Add in the apple, raisins, chopped figs, lemon oil, and lemon peel. Stir until combined.

④ Pour the batter into the prepared *Dutch Oven* or other pan, then dot the top with the remaining sliced figs. If using a *Dutch Oven*, set the vessel on a thin bed of embers and heap additional embers onto the lid once closed. Bake for about 50 minutes to one hour, until nicely browned and firm to the touch.

⑤ Cool for at least 30 minutes before slicing. Serve sprinkled with powdered sugar if desired.



# Zpoc Milk, Eggs, & Butter

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It's not quite as treacherous as a world rife with plague, death, decay, and flesh-eating corpses, but anyone navigating the world of powdered eggs and dairy will benefit from a few pointers.

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**TIP:** *Shelf lives are listed as "up to" because storage conditions will greatly impact the edible life of stored foods!* See Tips for Long-Term Food Storage (page 215) for more.

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## MILK

### INSTANT NONFAT POWDERED MILK

Instant nonfat powdered milk provides a decent drinking milk and can be used in all baking and cooking applications as a substitute for fresh. As compared to noninstant nonfat milk, this variety is easily dissolved in water for drinking, cooking, and baking. **Shelf life:** Up to 5 years unopened or up to 6 months after opening.

### POWDERED MILK ALTERNATIVE

Powdered milk alternative is a whey-based powder and a good option in terms of straight drinking quality. **Shelf life:** Up to 15 years unopened or up to 1 year after opening.

### NONINSTANT NONFAT POWDERED MILK

Noninstant nonfat powdered milk is best for cooking or baking applications in which you can add the milk powder to the dry ingredients and the water you need to reconstitute it to the wet ingredients, or where you can use just straight milk powder. You can drink it, but as the name suggests, it requires more time and effort in dissolving it for drinking. **Shelf life:** Up to 5 years unopened or up to 6 months after opening.

### WHOLE POWDERED MILK

Whole powdered milk is the tastiest powdered option for straight drinking and easily dissolves in water but has a short shelf life of about 6 months because of its high fat content. If you can use whole powdered milk in day-to-day pre-zpoc life, and therefore rotate your stock over a 6-month period, it is worth having as part of your stored foods and is great for making fresh safe house cheeses (though it tends to taste rancid in harder cheeses). **Shelf life:** Up to 6 months unopened or up to 2 months after opening.

### UHT MILK

UHT milk is a shelf-stable packaged liquid milk that has been heated to 280°F for 2 seconds, an "ultra-high temperature" treatment that uses a higher temperature and shorter time frame than traditional



pasteurization. Additionally, UHT milk is often packaged in aseptic paper-based boxes. Though it doesn't have as long a shelf life as most powdered varieties, it is by far the best in terms of taste and quality. *Shelf life:* 6–9 months until opened; in the absence of refrigeration, consume promptly once opened.

## EGGS

### EGG CRYSTALS

Egg crystals perform well in baking and other non-egg-centric cooking, but the place they really shine is in dishes where egg is the main attraction (read: omelettes, quiches, and scrambles). *Shelf life:* Up to 5 years unopened or up to 6 months after opening.

### POWDERED EGG YOLKS & POWDERED EGG WHITES

Powdered egg yolks and whites are good for applications in which you might need one without the other—cakes or custards, for example. Powdered whites cannot, however, be whipped up to make meringue or other such air-filled eats. Egg yolks can be used in place of fresh for most applications: to make flourless chocolate cakes, egg noodles, or sweet doughs. They act as a decent emulsifier, too, for *Bunker Mayo* (page 227). *Shelf life (yolks and whites):* Up to 3 years unopened or up to 6 months after opening.

### POWDERED SCRAMBLED EGGS

Powdered scrambled eggs are similar to powdered whole eggs, but typically contain additives (modified food starch, modified

milk ingredients, artificial flavors, etc.) that are meant to help create a texture and flavor similar to fresh scrambled eggs. This is a product that varies widely in quality and tastiness depending on brand and manufacturer; though generally speaking, they do provide a more scrambled egg-like experience than scrambling whole powdered eggs.

*Shelf life:* Up to 10 years unopened or up to 1 year after opening.

### POWDERED WHOLE EGGS

Powdered whole eggs are the most versatile, as they can be used in place of fresh eggs in baking and cooking to make everything from cakes to omelettes. *Shelf life:* Up to 5 years unopened or up to 6 months after opening.

## BUTTER

### CANNED BUTTER

Canned butter is an option for long-term storage and slightly more convenient than powdered butter—just open the can and go. It is more expensive than its powdered cousin but as close to fresh butter as you are going to get in a bunker (unless of course you have cattle!). *Shelf life:* Up to 2 years unopened or 2–3 days after opening.

### POWDERED BUTTER

Powdered butter only comes in one variety and is a perfectly acceptable substitute for the real thing during the zpoc. It is made by dehydrating fresh butter, and once reconstituted, it generally tastes and behaves like the real deal: It can be spread, melted, and



used in any recipe calling for butter, though it does not whip up as well as normal butter when creamed together with sugar (like in

*Life is Not Just Peachy-Blueberry Cobbler, page 220).* **Shelf life:** Up to 5 years unopened or up to 1 year after opening.



## EVERYTHING'S GOING TO BE SALT COD KOROKKE

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Korokke are the Japanese version of the French croquette or the Dutch kroket. They are a very popular snack food in Japan, available in butcher shops,

supermarkets, bento shops, convenience stores, and even specialty korokke shops. I mean, who doesn't love deep-fried mashed potatoes?



Salt cod is a versatile long-term storage ingredient (see *Using & Storing Salt Cod*, opposite) that can be used for protein in everything from pasta to soups to casseroles—including this recipe, a mash-up of the traditional North American salt cod cake and the Japanese korokke.

ボナペティ!

#### YIELDS:

2–3 Hungry Survivor servings, 3–4  
Regular Joe servings (6–8 small cakes)

#### REQUIRES:

1 large saucepan  
1 medium saucepan  
1 small frying pan  
1 wooden spoon or other stirring utensil  
1 plate  
1 spatula

#### HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
(page 42)

#### TIME:

10 minutes prep  
10 minutes attended cook time

#### INGREDIENTS:

1½ c. potable water  
1¼ c. instant mashed potato mix  
½ c. instant milk, reconstituted as per  
package directions  
¼ c. powdered butter  
6 oz. salt cod, rehydrated in water  
changed every 2 hours for 8 hours  
1 bay leaf

¼ c. freeze-dried onion, rehydrated per  
package directions

¼ c. freeze-dried carrot, rehydrated per  
package directions

1 tsp. freeze-dried minced garlic, or ½  
tsp. garlic powder

3–5 dashes of Tonkatsu sauce (or  
Worcestershire sauce)

Black pepper, to taste

Salt, to taste

Liberal amount of vegetable oil, for frying

1 c. flour, for dredging

1 c. panko breadcrumbs, for coating

2 powdered eggs, reconstituted per package  
directions, for dredging

#### METHOD:

① Set up a cooking fire or other *Stovetop Hack*. In a large saucepan, bring water to a boil over high heat. Remove from heat, add the instant potatoes, and mix until incorporated. Add the reconstituted milk and powdered butter and mix until incorporated. Add more water or milk to adjust consistency, if needed—the consistency should be creamy but neither stiff nor soupy. Set aside.

② In a medium saucepan, cover the drained salt cod with water. Add a bay leaf and bring to a very gentle simmer. Cook *gently* for 5 minutes—do not boil! It will create an awful stringy texture. Drain well, chop finely, and add to the potatoes.

③ In a small frying pan, sauté the onions and carrots until soft without taking on too much color. Add the garlic (straight from the package is fine here, no rehydration needed) and continue cooking until soft.



## USING & STORING SALT COD

Salt cod, also known as *bacalhau* (Portugal) or *baccala* (Italy), is cod that has been preserved through salt and dehydration. It is a great long-term storage food because of its long shelf life and versatility.

Salt cod is used extensively in Nordic, French, Portuguese, and Italian cooking for soups, casseroles, spreads, and in the classic preparation of salt cod cakes, which gets a Japanese twist in the recipe here.

Be sure to source salt cod that has been completely dehydrated (moisture levels can vary). It can be stored wrapped in tinfoil in a dark, dry place for several years. Inspect each piece before using and discard if any discoloration, soft or moist patches, or strong unpleasant odors are detected. Rehydrate by covering with potable water and soak over several hours (up to 24 in cold ambient temperatures), changing the water every few hours.



- ④ Add the onions, carrots, garlic, Tonkatsu sauce, and black pepper to the potatoes and cod; mix until well combined. Taste and add salt if needed. Divide the mixture into 6 or 8 portions and form into cakes.
- ⑤ Return the medium saucepan to the heat and add enough oil for frying. Pour the flour and breadcrumbs onto separate plates

or into shallow bowls and put the bowl with reconstituted egg between the two. Next, coat each cake in the flour, then egg, then panko. Test the oil with a sprinkle of breadcrumbs; when they sizzle vigorously, add the cake and fry until deep golden brown and crunchy—about 3 minutes per side. Serve with *Bunker Mayo*, below.

## BUNKER MAYO

Another food you may have feared you would never see again once those rotting bastards took over the planet: mayonnaise. Oh, mayo. How many French fries have you upgraded? How many salad dressings have you jazzed up? How many egg sandwiches have you graced? And with this recipe you can now live on in all your saucy glory to bring a little light to the darkness of the countless bunkers and basements where this recipe will surely be made.

Or more simply: I love mayonnaise. You can make it from shelf-stable ingredients. And it actually tastes good. Bonus.

### YIELDS:

$\frac{3}{4}$  cup of mayonnaise

### REQUIRES:

1 large mixing bowl  
1 measuring cup  
1 whisk  
1 spatula  
1 fellow survivor or a damp kitchen towel



## TIME:

20 minutes attended prep time

## INGREDIENTS:

1½ tbsp. egg powder  
1 tbsp. water  
1 pinch sugar  
½ tsp. salt  
1 tbsp. white vinegar  
½ tsp. mustard, preferably Dijon, or equivalent of mustard powder  
½ c. oil, preferably canola

## METHOD:

- ① Make a ring with a damp kitchen towel and place a large mixing bowl onto it to avoid slipping while you are mixing, or have a fellow survivor hold the bowl steady for you.
- ② Add the egg powder, water, sugar, salt, vinegar, and mustard to the bowl. Whisk until well combined.
- ③ With one hand pour the oil into the bowl *slowly* (over the course of 2 minutes or so) in a thin stream while whisking very vigorously with the other. After about a minute or so, the mixture will start to thicken. The mixture should always look homogeneous—if it looks oily then you are adding the oil too fast and/or the mixture has broken. Stop pouring and whisk it until it is homogeneous again. When done adding the oil, taste and adjust seasoning if needed. Use immediately.

# POWDERED FRESH CHEESE

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Seems like an oxymoron, right? Well, it sort of is. But it works. You can make fresh ricotta-style cheese even when all the cows have gone wild and there isn't a single drop of fresh milk in sight.

For the true-blue quesophiles out there, I should emphasize that this is a “ricotta-style” cheese—not a true ricotta. “Ricotta” means “recooked,” and a true ricotta comes from reboiling the liquid whey leftover from cheesemaking. While you do end up with whey when making cheese from powdered milk, in my experience it’s not all that great for making ricotta.

Use this extremely quick and easy cheese on *Prepper's Pizza* ([page 230](#)), in lasagna and other pasta dishes, or in any number of other culinary uses. Because the coagulating agent in this cheese is vinegar, it has a slightly acidic taste, making it much better for savory (rather than sweet) applications—but it does take well to any and all forms of flavoring from herbs and spices you might have on hand.

## YIELDS:

About 1 pound of cheese

## REQUIRES:

1 medium pot or saucepan  
2 large bowls  
1 spatula or other tool for stirring  
1 colander



## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
(page 42)

## TIME:

5 minutes prep  
2 minutes attended cook time

## INGREDIENTS:

$\frac{1}{4}$  tsp. plus  $\frac{1}{2}$  c. oil, divided  
 $\frac{1}{2}$  c. white vinegar



### THESE PRETZELS ARE MAKING ME THIRSTY

It's no secret that processed foods (and therefore lots of shelf-stable prepper-friendly foods) generally contain a lot of sodium. Guess what? Sodium makes you thirsty. I will forgo an overly complicated scientific explanation and provide a food metaphor: You know how salt is used to pull the moisture out of meat when curing or drying it? Well, the same thing happens in your body. Once you've eaten salt, it is absorbed into the bloodstream via the small intestine. Your salty blood then tries to pull the moisture (water) out of cells, these cells give your brain the heads up, and then you feel thirsty. Pretty neat, right? Sure. But in a zpoc setting when water is at a huge premium, take it easy on the salt, OK? Look for low-sodium options in everything you decide to store and avoid oversalting your food. 'Cause a dehydrated survivor is a dead survivor.

$2\frac{1}{4}$  c. noninstant milk powder

3 c. hot potable water

2 liberal pinches of salt, to taste

## METHOD:

① Set up a cooking fire or other *Stovetop Hack*. Measure the oil and vinegar and set each aside so they are handy when you need them. Also have a bowl of water handy for rinsing in step 5. Add the  $\frac{1}{4}$  teaspoon of oil to a medium pot or saucepan, and using a piece of paper towel or your fingers, spread the oil to just coat the bottom and sides of the pot. Set aside.

② In a large bowl reconstitute the noninstant milk with the hot water, whisking until completely dissolved and smooth with no lumps remaining, about 2 minutes. Add the  $\frac{1}{2}$  cup of oil and whisk until well combined and no oil droplets are visible, about 2 minutes more.

③ Place the saucepan over medium-high heat until the oil is shimmering and just about to smoke. Do not use high heat—using a medium-high flame will allow the pan to heat up gradually and more evenly.

④ Remove the pan from the heat and, all at once, add the milk mixture to the hot pan. Add the white vinegar to the pot, pouring in a circle and zigzags to distribute evenly. Stir gently until the milk begins to coagulate, about 15–30 seconds. You will see the cheese curds begin to separate and will soon be left with an amber-colored whey.

⑤ As soon as the liquid in the pot looks reasonably clear (as opposed to cloudy) and



amber, pour the curds into a colander over a bowl. Overcooking the curd will make it tough. Rinse gently with warm water to remove any excess vinegar.

⑥ Sprinkle the curds with salt (plus any other flavoring you'd like to include) and massage it in with your fingers. Use immediately.

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**RECOMMENDED READING:** *The first thing you should do if you happen to get your hands on some fresh raw milk (aside from washing them) during the zpoc is start making proper cheese! But making cheese from raw milk is a whole other ball game—a more complex but far more interesting and exciting ballgame. The possibilities abound when you can harness and*

*cultivate the live and variable microbial communities that come along with fresh raw milk.*

*If you are keen on boning up on cheesemaking (or even just doing some interesting reading) pre-SHTF or while bugging in, there are many excellent books on the topic. Here are a few of my favorites:*

- ★ *Home Cheese Making by Ricki Carroll*
  - ★ *The Joy of Cheesemaking by Jody Farnham and Marc Druart*
  - ★ *Home Dairy with Ashley English: All You Need to Know to Make Cheese, Yogurt, Butter, & More by Ashley English*
  - ★ *American Farmstead Cheese: The Complete Guide to Making and Selling Artisan Cheeses by The Vermont Cheese Council and Paul Kindstedt*
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## PREPPER'S PIZZA

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Everyone is going to miss pizza when the zombies take over. While you can use the *Flour Tortillas* (page 214) for a fast and easy pizza-esque face-stuff, this recipe includes instructions for making real-deal pizza dough. It takes about 2 hours to rest and rise, so factor that into your end of a long day of horde evasion dinner plans.

While freeze-dried cheese works just fine on this 'za, why not use some of that *Powdered Fresh Cheese* (page 228) you just whipped up instead? This is a simple pie that adds only mushrooms and seasoning to the mix. But as always, improvise ingredients based on availability and personal tastes—possibilities abound.



## **YIELDS:**

2 Hungry Survivor servings, 4 Regular  
Joe servings

## **REQUIRES:**

2 small mixing bowls  
1 large mixing bowl  
1 kitchen towel or other clean fabric  
1 *Dutch Oven*, large baking sheet, or  
pizza stone  
1 rolling pin

## **HEAT SOURCE:**

Indirect, *Dutch Oven* or other *Oven Hack*  
(page 44)

## **TIME:**

10 minutes prep  
2 hours unattended rise time  
10 minutes minimally attended bake time

## **DOUGH INGREDIENTS:**

1 package active dry yeast (2 tsp.)  
1 c. plus 2 tbsp. warm water, divided  
3 c. all-purpose or bread flour, plus more  
for dusting  
1 tbsp. sugar  
1 tsp. salt  
1 tbsp. extra-virgin olive oil, plus more  
for coating  
Cornmeal for dusting

## **TOPPING INGREDIENTS:**

½ c. dried mushrooms  
2 c. *Powdered Fresh Cheese* (page 228)  
¼ tsp. dried oregano  
¼ tsp. red chili flakes  
Salt, to taste  
Olive oil, for drizzling

## **METHOD:**

- ① Make the dough: Add the packaged yeast and 2 tablespoons warm water to a small bowl, mixing to combine. Set aside. Measure out the flour, sugar, and salt into a large mixing bowl.
- ② Once you can see bubbles at the surface of the yeast mixture (it should take 5 minutes or so), add it to the flour mixture, along with the remaining cup of water and tablespoon of olive oil. Mix gently until a ball forms. Turn the ball out onto a lightly floured surface and knead for 5 minutes until the ball is no longer soft and sticky but smooth and stretchy. Lightly grease both the mixing bowl and kneaded ball of dough. Let the dough rest, covered, in the bowl until it has doubled in size, about 1–2 hours.
- ③ In the meantime, start a cooking fire to generate embers for your *Dutch Oven* or for use with another *Oven Hack*.
- ④ When the dough has doubled, rehydrate the mushrooms by just covering with warm water in a small bowl for 5 minutes. When draining, be sure to shake off as much excess moisture as possible. Preheat a *Dutch Oven* or other *Oven Hack* for 500°F baking (see *Judging Temperature*, page 47, for more).
- ⑤ With lightly floured hands, turn the dough out onto a lightly floured surface. If the *Dutch Oven* or other equipment (baking tray or pizza stone) is not large enough to accommodate the entire ball



of dough; divide it in half and make 2 smaller pies. Begin shaping the ball(s) by hand into a disk, then use a rolling pin to roll out to desired thickness—if the oven rig is really hot, make the dough fairly thin so it can cook through without burning. Using your hands, you can form a thicker crust around the edges of the dough if you desire.

⑥ Sprinkle the inside of the preheated *Dutch Oven* or other baking surface with cornmeal and transfer the crust onto it. Moving quickly (and carefully!), cover the crust with the fresh cheese, then distribute

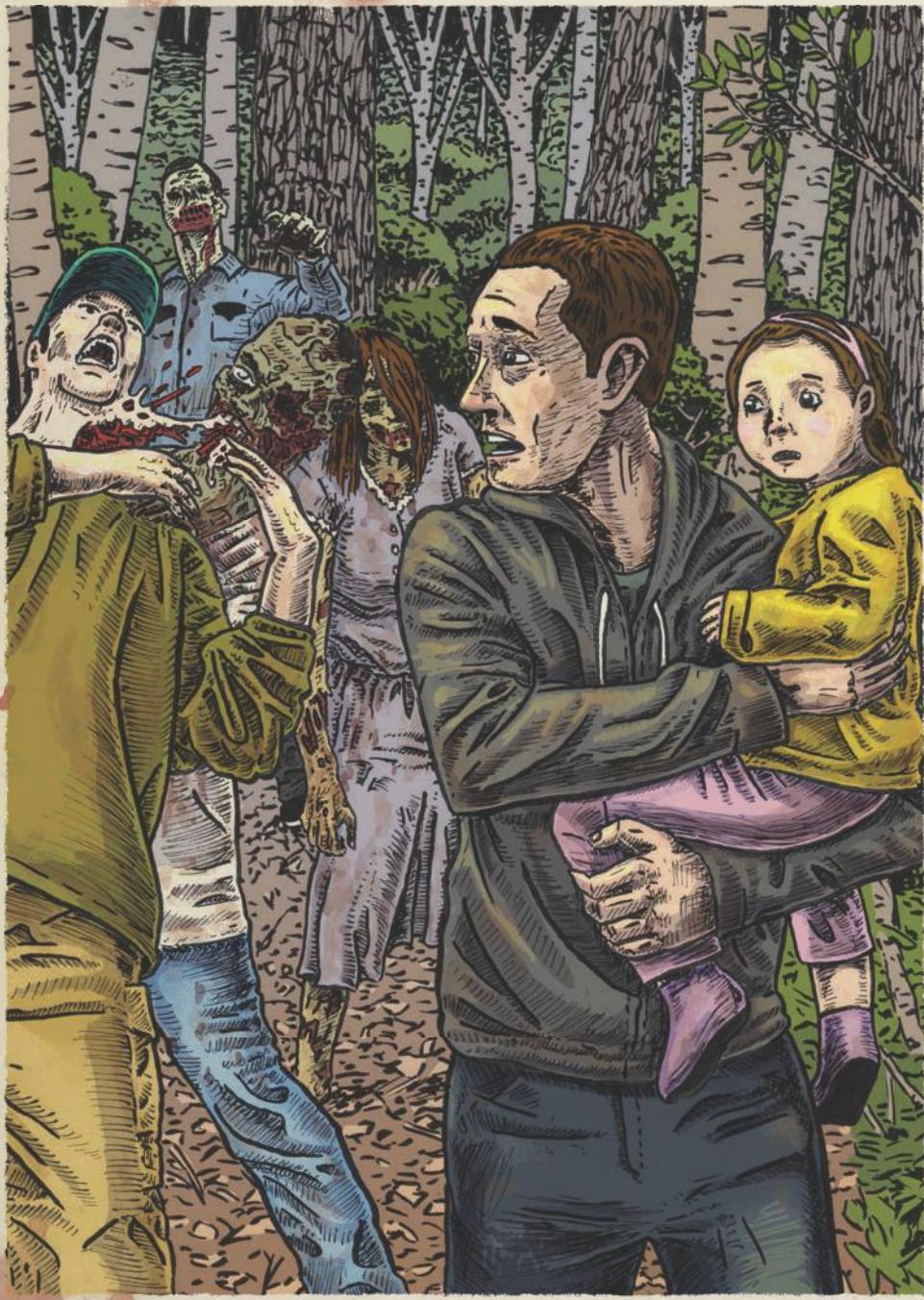
the mushrooms evenly on top. Sprinkle on the oregano, chili flakes, and salt. Drizzle with olive oil. Bake, heaping the lid of the *Dutch Oven* with embers, for 5 minutes or until the crust is golden and the mushrooms are slightly browned.

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**NOTE:** If using your own “wild yeast” or *levain* (see When the Yeast Runs Dry, page 90), adjust your recipe to: 1 cup *levain*, 1 cup flour, 1 teaspoon salt, and 1 teaspoon extra-virgin olive oil and proceed as directed.

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BUGGING  
OUT, or  
EATING  
on the RUN





# LIVING OFF THE (WASTE)LAND



*In the event that you choose to, or must, bug out, you will likely find yourself navigating “the wasteland”—that is, the abandoned homes, neighborhoods, towns, cities, and other structures that once made up what we affectionately remember as civil society. When imagining what the food supply might look like in an apocalyptic wasteland, the first thing I would recommend is to lower your expectations—significantly. Things might get bad. Like Carl Grimes-eating-cat-food bad. But don’t fret. With a little patience and planning, you can pull off some palatable wasteland eats.*

*Whether you are purposefully moving through the wasteland en route to a rumored survivor camp or simply shuffling about trying to stay alive, chances are you will be nomadic: moving from place to place day after day, scavenging for food and supplies while evading high densities of rotters. While the preceding sections of this book provided a cadre of skills you’ll find useful while scavenging the wasteland—namely, collecting and purifying water, hunting/trapping animals and insects, foraging, and possibly even growing your own food if you find a good place to squat—you may be forced to subsist solely on what the dregs of society can offer with intermittent access to green spaces and natural resources. Thus, the recipes and general tips in the following section are designed to help you make the most of those Twinkies, Spam, Slim Jims, and other long-term imperishable foods the wasteland has to offer.*



## WHO'S GOT YOUR BACK TUNA MAC

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Living off the wasteland is no joke. After the initial outbreak, when most of humanity will have been picked off by the zeds like the ripe little cherries we are, finding food amid the tatters of society will be freaking tough. Finding an intact and unspoiled box of mac and cheese *and* a can of tuna is the equivalent, in zpoc terms, of hitting the jackpot.

There isn't much skill involved in making a box of mac and cheese or

opening a can of tuna (unless of course you don't have a can opener), but I have included this recipe because not only does it include a good smattering of food groups, but also in all its processed junk-foody glory, it is a truly comforting dish after a long day of evading the horde. I have also included powdered butter and milk in place of the fresh varieties you'd have access to pre-zpoc—2 nonperishables



that make excellent additions to any BOB. Hot sauce really is a must for this dish; otherwise, it can be quite bland, so hit up an abandoned restaurant and try to rustle up some packaged hot stuff.

Rummaging your way through the wasteland is also a great time to put some of those smaller, more portable stovetop hacks to the test—why not try out the *Bevy Can Burner* (page 242)? It's excellent for stealthy indoor cooking.

#### **YIELDS:**

1 Hungry Survivor serving, 2 Regular Joe servings

#### **REQUIRES:**

1 mess kit or other scavenged pot  
1 mess kit cup or other cup, mug, or small bowl  
Wooden spoon or other cooking utensil  
Can opener

#### **HEAT SOURCE:**

Direct, *Bevy Can Burner* (page 242) or other *Stovetop Hack* (page 42)

#### **TIME:**

15 minutes, largely unattended

#### **INGREDIENTS:**

1 box macaroni and cheese  
2 tbsp. powdered butter  
2¼ tsp. powdered milk  
1 x 5-oz. can tuna (drained if in water)  
2–4 packets takeout hot sauce

#### **METHOD:**

- ① Set up a *Bevy Can Burner* or other *Stovetop Hack* and bring water to a boil over high heat. Cook the pasta as per the instructions on the box.
- ② When the pasta is ready, make sure you remove and set aside about 1 cup of the cooking water.
- ③ To the drained pasta, add the 2 tablespoons of powdered butter, 2¼ teaspoons of powdered milk, and the package of cheese sauce that was included in the box.
- ④ Add about ¼ cup of the reserved cooking water and stir. Add more pasta water in small increments until you get the level sauciness you desire.
- ⑤ Add the canned tuna and mix until incorporated. Drizzle with a healthy amount of hot sauce. Eat immediately.



# Building a Bevy Can Burner

Bevy can burners have been longtime favorites among ultra-lightweight backpackers and survivalists alike—they are easy to construct, very small, and weigh only about an ounce.

The most commonly used fuel for these stoves pre-zpoc is denatured alcohol, which you can try to scavenge in hardware stores and camping/military supply stores, or in the outdoor section of department stores. You could also use methyl alcohol. Often sold as paint thinner or gas line anti-freeze, it can be found at hardware stores, gas stations, etc.—but be forewarned that methyl alcohol has a higher toxicity and volatility than other fuels available.

Rubbing alcohol can also be used but has a lower alcohol content than denatured or methyl alcohol and so, given the

bevy can burner's design, might not get enough oxygen to burn. Grain alcohol (aka moonshine) is another option, clocking in at 95% alcohol (190 proof) and the only fuel mentioned here that is nontoxic to humans.

Because alcohol fuel burns so cleanly, bevy can burners are an excellent option for indoor cooking as they won't produce any smoke. But be warned—alcohol burns with a near-invisible flame and any fuel spills that occur while the stove is burning could cause serious injury or fire. Do not handle the stove while it is in use!

## WHAT YOU WILL NEED:

- ★ 3 empty soda cans
- ★ Metal shears or a sharp knife
- ★ A permanent marker
- ★ Measuring tape or ruler
- ★ Heat-resistant tape or high-heat epoxy glue (useful, not essential)

- ① Make the top of your stove: Poke 16 evenly spaced holes into the outer rim of the bottom of one of the soda cans.
- ② Cut out the smaller area inside this rim, effectively the bottom surface of the can.
- ③ On the same can, mark off a line around the can that is  $\frac{3}{4}$  inch from the bottom. Cut above this line for your first cut, then make a second cut on the line itself (it will be easier to make



BEVY CAN BURNER



a good, clean cut this way). Discard the top portion of the can that you just cut off. If the cut edge on the bottom portion is jagged, sand it down using the file from your multi-tool.

- ④ Make 8 evenly spaced vertical snips, about  $\frac{1}{4}$  inch deep, along the rim to produce tabs. This is the top of your stove. Set aside for now.
- ⑤ Make the bottom of your stove: Mark off a ring around a second soda can 1 inch from the bottom. Apply the same technique as in step 3, making 2 separate cuts to get to the final clean cut. This will be the bottom of your stove. Set aside for now.
- ⑥ From the middle of the third can, cut out a section  $1\frac{1}{3}$  inches tall; this will be the inner wall of the stove.
- ⑦ Place the strip, with ends overlapping, so that it sits directly on top of the inner rim of the stove's bottom, pinch with your fingers to hold the strip at the appropriate size, then mark off the point halfway into the overlap—the spot where the 2 ends of the strip will need to lock together. Cut one slit into each side of the strip at that distance, but on opposite ends, so the 2 cuts can be used to lock the strip in place. Be sure that the ends are on the inside of the strip when locked together so that the outside forms a smooth ring.
- ⑧ Cut 3 small notches, about  $\frac{1}{4}$  inch deep and  $\frac{1}{2}$  inch wide, into this inner wall;

these will allow the fuel to flow from the inner to the outer wall.

- ⑨ Put the inner wall, with notches facing downward, into the bottom of the stove.
- ⑩ Nudge the tabs on the top of the stove so they point inward slightly; this will aid in fitting the top and bottom together. Slip the top of the stove (tabbed end first) into its bottom—this can be finicky so go slowly—and it should lock into place.
- ⑪ To secure the construction, tape it up with heat-resistant tape or glue it with high-heat epoxy, if available.
- ⑫ Fill the inner chamber about halfway for 15 minutes of high-heat cook time. Because alcohol is the fuel, the flame is nearly invisible; be very careful when lighting and do not handle it while it is burning (it will also be very hot) to avoid spills and serious injury.

A small addition to the stove called a “simmer top” can be made from the top of another can, by cutting where the can starts to slope up at the top. When slipped on top of the stove, the simmer top will decrease the temperature and rate at which the fuel burns. With a simmer top, the stove can burn for upwards of 2 hours. Because it limits the oxygen exposure, only put the top on once the fire has established itself and has been burning for a few minutes. Carefully drop the simmer top onto the burning stove (or use tongs if they are available), then adjust gently so that it covers the stove.



To cook with the bevy can burner, you will need to fashion pot supports as you cannot put a pot directly on this stove. Rocks, bricks, a cylinder fashioned from sturdy mesh wire, etc., can be used to support your pot above the flame—just be sure it will not cut off the oxygen supply to the burner.

## BACK TO BASICS BANNOCK

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Bannock is a simple quick bread that can be made from as little as flour, baking powder, sugar/salt, and water. It's perennially popular among campers and backpackers, who prep it ahead of time by measuring out the dry ingredients into a resealable plastic bag, then add water to make the dough when needed.

Vegetable shortening, like Spam and Twinkies, is another item that will probably have an uncomfortably long shelf life during the zpoc—manufacturers generally say 2 years if unopened and kept in a reasonably cool place, but the likelihood is that this product will be fine to eat long beyond that. If you can scavenge shortening (or some other form of appropriate fat, like oil), it will greatly improve this basic bread.

To cook bannock, fry the dough in a little fat, dry cook it in a pan over low heat or on embers, or wrap it around a stick and cook it over an open fire. This recipe

is a sweet version featuring raisins and cinnamon, though you could just as easily include some minced and pan-crisped Slim Jims or Spam or whatever else you can get your hands on.

### YIELDS:

1 Hungry Survivor, 2 Regular Joe servings

### REQUIRES:

Mess kit bowl for mixing

Spoon or some other tool for stirring

Mess kit pan for cooking

### HEAT SOURCE:

Direct, open flame or other *Stovetop Hack*  
[\(page 42\)](#)

### TIME:

5 minutes prep

20 minutes bake time

### INGREDIENTS:

1½ c. flour

1 tsp. baking powder

2 tbsp. sugar, preferably brown  
(or 2 sugar packets)

¼ tsp. salt

¾ tsp. cinnamon

2 tbsp. raisins

2 tbsp. vegetable shortening or oil

Scant ½ c. water

### METHOD:

① Set up a cooking fire or other *Stove-top Hack*. Over low heat, warm a mess kit frying pan.

② In a mess kit bowl, mix together all dry



ingredients until blended. At this point you can store the dry ingredients in a resealable plastic bag to carry with you so they are ready when needed, if you'd like.

③ Add the oil and  $\frac{1}{4}$  cup of the water and mix until combined. If the dough is still too dry to come together in a ball, add another tablespoon of water and mix until just incorporated. The dough should hold together in a shaggy ball and should not be sticky. Knead the dough a couple of times to smooth, then press it into a disk.

④ Add a very small amount of fat to the pan, just to prevent sticking, and spread it evenly so that the bottom of the pan is lightly coated. Put the dough into the preheated pan and cook over very low heat, which will allow the bread to cook through without burning, about 10 minutes per side. Test for doneness by sticking a sharp, skinny implement into the bread. It is ready when the implement comes out clean. Bannock is best enjoyed warm and will dry out completely within a day or so.

## TWINKIE TRIFLE

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You may remember the Twinkie scare of 2012—those few months when we thought the almighty Twinkie would disappear forever. Whichever side of the Twinkie debate you landed on pre-zpoc—Pollanite or cream-filled enthusiast—the fact that Twinkies returned from the grave (and have a seemingly endless afterlife) is good news for hungry, sweet-toothed survivors.

If I found a Twinkie while scavenging the wasteland during the zombie apocalypse, it would probably be ripped from its packaging and shoved in my face faster than you can say “Hostess.” Nonetheless, here is a slightly more “refined” way to enjoy Twinkies, in case you find yourself with a

surplus of the snack cakes, or perhaps find yourself in Montreal and happen upon the commercial bakery that produces them.

### YIELDS:

1 Hungry Survivor or Regular Joe serving

### REQUIRES:

1 bowl

### TIME:

5 minutes prep

### INGREDIENTS:

3 Hostess Twinkies

2 tbsp. canned pineapple juice (optional, if available)



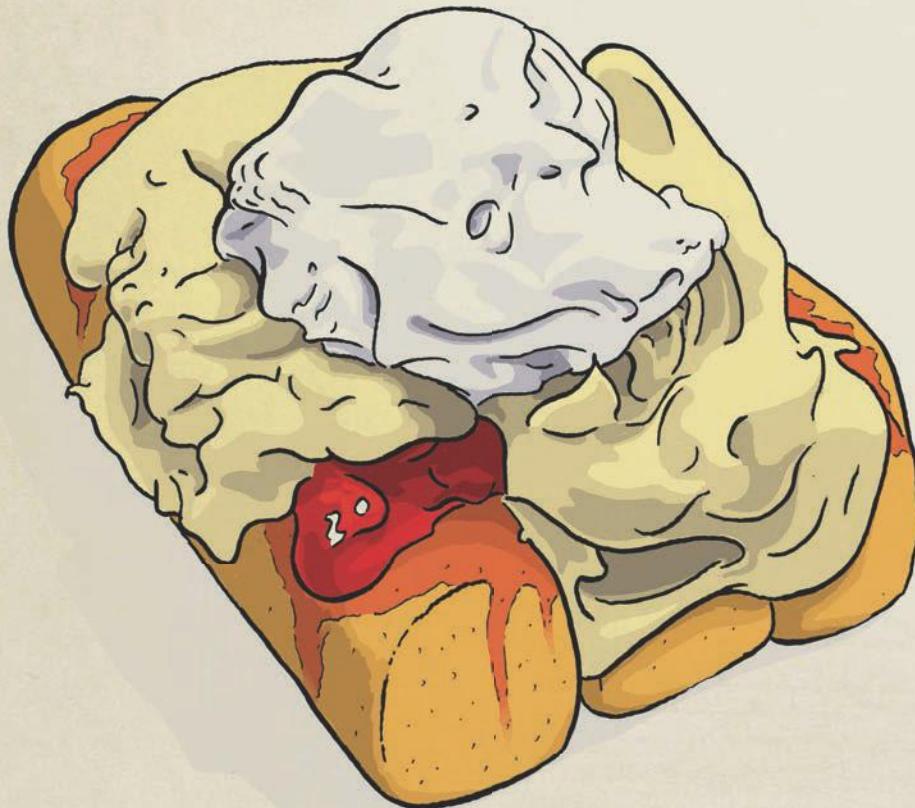
2 packets fruit jam (or 2 tbsp.)  
½ single-serve vanilla pudding pack  
2 tbsp. marshmallow fluff (optional, if available)

### METHOD:

- ① Lay the Twinkies at the bottom of a small bowl.

② Drizzle the pineapple juice (if available) over the cakes to moisten them, then spread a thin layer of fruit jam over top.

③ Cover with half the pudding pack. Top with marshmallow fluff, if available. Enjoy immediately.



# The Incredible, Edible Spam

---

Oh, Spam. The often sneered at and ubiquitous canned meat actually had quite humble beginnings at the family-run Hormel Foods Corporation in 1937; it originated as a way to use shoulder cuts of pork. With the arrival of WWII, the affordable and shelf-stable protein was cemented into American culture by feeding soldiers overseas.

Today Spam remains an inescapable icon of American food. Pre-zpoc it is a love/hate food, the butt of many jokes, and, thanks to Monty Python, the namesake for the email phenomenon. Post-zpoc it will be one of the most sought-after scavengeable foods.

Tons of salt and a dash of nitrates give Spam its staying power, and when the undead are trying to get your gray matter, you will be glad to find a can of this pink matter. If you happen to be in or around Minnesota or Nebraska, you might be able to scavenge direct from the source: Spam is produced in 2 facilities, one in Austin, Minnesota, and one in Fremont, Nebraska. Food scientist and author Harold McGee even recommends aging Spam for 5-plus years to give it a softer texture and better crunch when frying (see *Like a Fine Wine*, page 94, for other canned foods that do well with aging).

Though it is cooked and can be eaten straight from the can, the best way to enjoy Spam is panfried until crispy. And because it is reasonably bland, you can use it in any

number of ways—in instant ramen, in a fried rice, as kabobs with canned pineapple, in a Hawaiian rice/Spam/nori sandwich (see *End Times Musubi*, below), or as an added bonus in boxed macaroni 'n' cheese or canned soups/stews.

## END TIMES MUSUBI

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Spam musubi is a hugely popular grab-and-go snack food often found in Hawaiian convenience stores. It is sort of like a little Japanese inspired Spam sandwich—a compact handheld rice and Spam concoction wrapped in nori.

To make this wasteland gem yourself, all you'll need is a can of Spam, rice, nori, and soy sauce—all ingredients with excellent shelf lives that could be found with a little dedicated scavenging. And you can use the Spam tin as a mold, so it requires no specialized equipment either. If you can find some takeout packages of mayo that are still palatable, they will make an excellent dipping sauce.

### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings (8 Musubi)





### REQUIRES:

1 medium pot with lid  
Baking sheet or some other clean, flat surface  
1 frying pan  
Tongs or fork, for flipping

### HEAT SOURCE:

Direct, *Bevy Can Burner* (page 242) or  
other *Stovetop Hack* (page 42)

### TIME:

30 minutes prep  
5 minutes assembly time

### INGREDIENTS:

4 c. potable water  
2 c. white rice, preferably medium-grain  
Salt, to taste  
1 can Spam  
4 packets takeout soy sauce (about 4 tbsp.)

2 sheets Nori

4 packets takeout mayo (or more to taste,  
if available)

### METHOD:

① Set up a *Bevy Can Burner* or *Stovetop Hack* and pot supports. Add the water, rice, and a pinch of salt to a medium pot. Bring to a boil over high heat, then cover, adding the simmer lid to cook on very low heat until the rice is done—about 15 minutes. Remove the pot from the heat and let sit, covered, for 5 minutes. Spread the rice out on a baking sheet or other clean surface and let it dry out while you prepare the Spam.

② Remove the simmer lid from your burner and heat a frying pan, adding more fuel if needed. In the meantime, open the Spam and set aside the tin for later use.



Slice the Spam into 8 equal slices. Fry the pieces (in 2 batches if needed) in the heated pan until nicely browned and crispy on both sides, about 2 minutes per side. Add 2 packets (1 if frying in batches) of soy sauce and let it cook off/reduce to a nice slightly syrupy coating on the Spam. Flip the Spam pieces and repeat.

③ Scoop about  $\frac{1}{4}$  cup of rice into the bottom of the Spam tin and press down firmly to make a uniform layer—be careful, though the edges of the can are not generally sharp. Add a piece of the fried Spam, then cover with another  $\frac{1}{4}$  cup of rice. Press it down firmly, then flip the tin and give it a gently tap to release the rice/Spam sandwich. Wrap in a  $\frac{1}{3}$  sheet of nori, then repeat for the remaining 7 musubi. Top each with a squeeze of packet mayo and eat immediately.

What's a survivor to do with a boxed cake mix when there are clearly no fresh eggs in sight? As long as you can get your hands on a can of soda, you'll be in business. A regular 12-ounce can of soda (classic cola, grape, orange, whatever) will replace both the oil and eggs, leaving you with a delicious (?) wasteland dessert. In an ideal post-apocalyptic world, you could put some thought into pairing the cola with the cake: a clear mild-mannered or fruit-flavored soda with vanilla cake, or classic cola with chocolate cake. But in times like these you're probably just going to have to use whatever you can get.

Because this cake tends to break apart easily, you'll have most success baking it as cupcakes in a scavenged muffin tin (if you can find one). Otherwise, use any form of metallic baking pan (loaf, cake, Bundt pan, etc.). If you can also scavenge some cooking spray or parchment paper to line the cooking vessel(s), major bonus.

#### **YIELDS:**

1 x 9" cake or about 24 cupcakes

#### **REQUIRES:**

1 large mixing bowl  
1 spoon or other tool for mixing  
1 muffin tin, 9" cake pan, or other scavenged baking vessel

#### **HEAT:**

Indirect, *Ammo Can Oven* or other *Oven Hack* ([page 44](#))

#### **TIME:**

2 minutes prep

## **WASTELAND CUPCAKES**

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Oh how cute! Cupcakes at the end of the world! Regardless of how you feel about the pre-dead-walking cupcake craze (which could be likened to a form of zombiism, I suppose), this is a recipe that makes good use of an ingredient you might very well come across in an abandoned kitchen cupboard or find accidentally nudged under a convenience store shelving unit: boxed cake mix.



Approximately 10–30 minutes attended baking time, depending on vessel

### **INGREDIENTS:**

1 box cake mix  
1 x 12-oz. can of soda

### **METHOD:**

① Set up an *Ammo Can Oven* or other *Oven Hack* for 350°F baking (see *Judging Temperature*, page 47). If you can, grease the baking vessel you are using or line it with parchment paper.

② Dump the dry mix into a large mixing bowl. Add the soda and mix until just combined. Pour into the baking vessel(s). Baking time will depend largely on what baking vessel you have available and the brand of cake mix you are using. Consult the box for recommended baking time, but generally the cake will be ready when the top(s) look set and a toothpick or knife stuck into the middle comes out clean—roughly 15 minutes in a muffin tin or 25 minutes in a 9-inch cake pan. Cool before eating.



INTO THE WILD



**NATURE IS A DYNAMIC EQUILIBRIUM,  
VIOLENTLY SWINGING FROM ONE EXTREME  
TO THE OTHER. THERE IS NO ROOM  
FOR SENTIMENTALITY, INTROSPECTION OR  
SELF-DOUBT. IT'S YOU OR THE BEAR.**

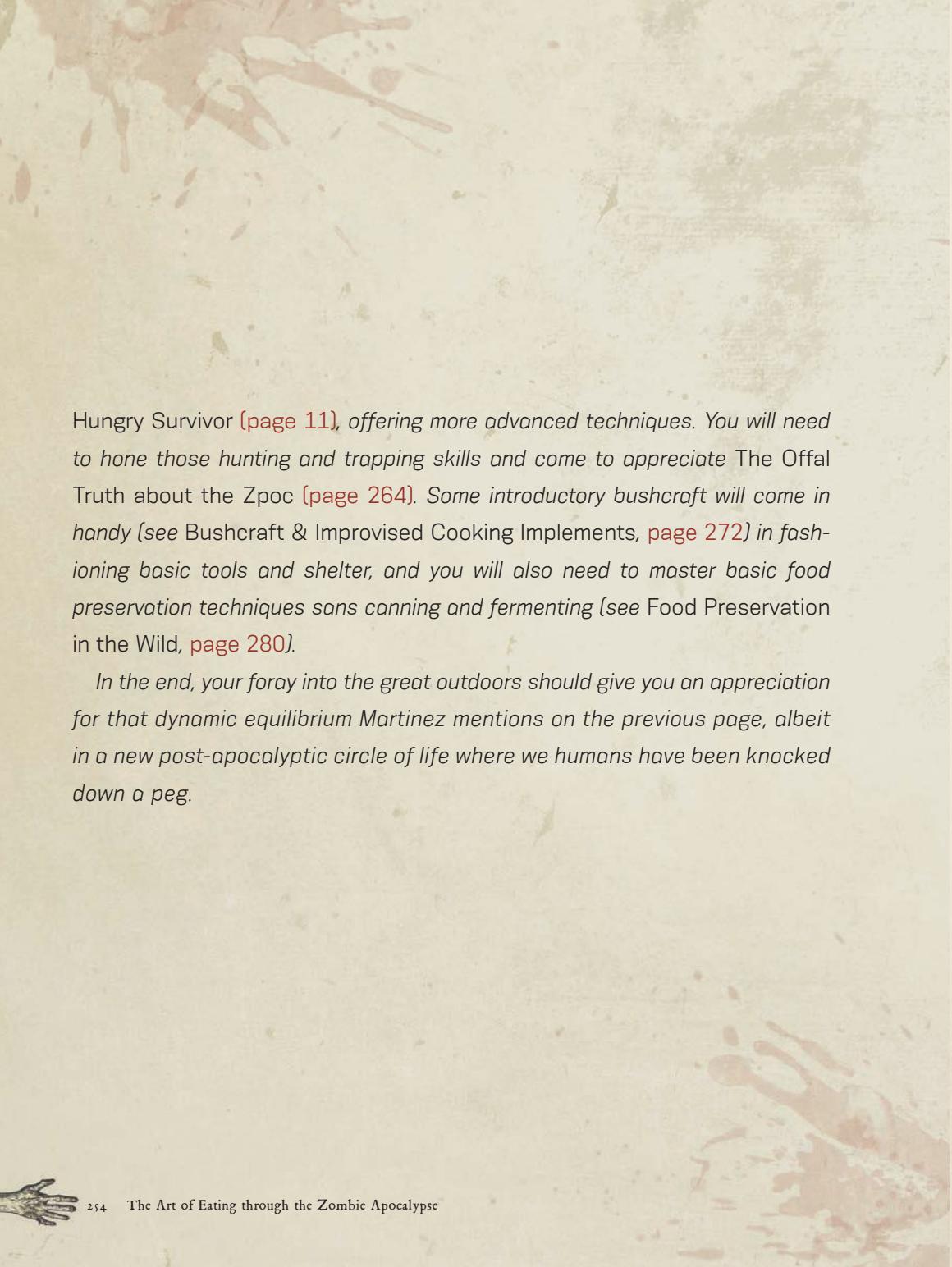
—Nathan Martinez, *Subsistence: A Guide for the Modern Hunter Gatherer*

Maybe you've succeeded in clearing the Wasteland Level (are there bonus lives for that?) and, having made your way through the abandoned and decaying detritus of human civilization, need to move on to greener pastures. Or maybe you're one of those brash, I mean brave, survivor types and the whole quaint bugging-in thing was never for you anyway—you want to throw yourself into the wild and woolly mix of out there. Either way, you will find yourself in a place quite unfamiliar to most of us—the wilderness.

*Being in the wild offers some definite advantages over the wasteland. If you find yourself with access to freshwater, you can fish, and the wilderness will offer a much better selection of wild edibles—better game, more abundant forageables. But don't be fooled! While Mother Nature shakes her tail feather in our faces, cooing promises of subsistence and perhaps even reliable food sources, she's a tough nut to crack. Surviving in the wilderness is not easy (why do you think there are over a dozen reality shows on the topic pre-zpoc?).*

*The skills you have acquired and practiced thus far will be of paramount importance—finding water, building a fire, some basic hunting and foraging—and this section builds on the foundations laid down in Essential Skills for the*





Hungry Survivor [page 11], offering more advanced techniques. You will need to hone those hunting and trapping skills and come to appreciate The Offal Truth about the Zpoc [page 264]. Some introductory bushcraft will come in handy (see Bushcraft & Improvised Cooking Implements, page 272) in fashioning basic tools and shelter, and you will also need to master basic food preservation techniques sans canning and fermenting (see Food Preservation in the Wild, page 280).

*In the end, your foray into the great outdoors should give you an appreciation for that dynamic equilibrium Martinez mentions on the previous page, albeit in a new post-apocalyptic circle of life where we humans have been knocked down a peg.*

# Wild Game Hunting during an Undead Uprising

Aside from potentially having to compete with zeds for animal flesh (see *Zeds Eating Animals*, page 281), hunting during the zpoc is much like hunting pre-zpoc. If it is something you have never done, there is a stomach-gnawingly painful learning curve. But don't sweat it; refer back to *Tracking, Hunting, & Trapping* (page 25) for a refresher, and with a little practice and a few practical tips, you should be able to bag yourself *something*.

There is, quite literally, a world of opportunity for wild game hunting and fishing, not to mention foraging (see *Foraging at the End of the World*, page 102). Below is a quick-and-dirty survivor's guide to North American hunting and angling:

## NOCTURNAL TREE DWELLERS: OPOSSUM & RACCOON

**CHANCES OF BAGGING:** Good

### WHERE THEY LIVE:

*Opossum:* Eastern half of the United States and Mexico along with pockets on the



western coast in Washington, Oregon, and California; in Canada, southern Ontario and the southeast coast of British Columbia

*Raccoon:* Across most of North America

**WHERE TO LOOK:** Varied habitat in both urban/suburban settings and the great wilderness

**WHAT THEY EAT:** Almost anything that is edible. They especially enjoy meat in the form of frogs, fish, small mammals, snakes, and carrion (dead animals).

**HUNTING TIPS:** Both animals have similar and distinctive hand-like footprints that will indicate their presence. Since hunting for raccoon and opossum is a nighttime activity, it is often done with dogs, who flush the animals out for the hunter to dispatch once they have taken shelter in a tree. Traps and snares can also be used. Both animals den up in very cold weather but are active to some degree throughout the winter.

**EATING TIPS:** Urban and suburban specimens have a less than savory diet (see *You Are What You Eat*, page 132), making their total-wilderness-dwelling brethren the better dinner. Because both raccoons and opossums are carrion eaters, trap when possible then feed a diet of vegetation for a few days to clean out their system.



# RABBIT

**CHANCES OF BAGGING:** Good

**WHERE THEY LIVE:** Virtually everywhere in the United States and southern Canada

**WHERE TO LOOK:** Brush, open woodlots, stream courses, and other edge habitats (areas of ecological and environmental change; for example, where forest meets swamp, field, road, or other human development)

**WHAT THEY EAT:** Almost purely vegetation. In summer, grasses, buds, and forbs—they are not finicky vegetarians and will eat almost any plant matter. In winter they subsist on twigs, bark, and young saplings.

**HUNTING TIPS:** Look for sinkholes, overgrown patches, brush piles, and other edge habitats offering dense cover near water. “Walking them up” is an effective way to hunt rabbit with a firearm—walking slowly around a suspected or known habitat, pausing every few steps for 5–10 seconds. This will play on their anxiety, and if they are nearby, it will cause them to think they have been spotted and bolt, bringing them out into the open to shoot. Snares and traps are other effective methods.

**EATING TIPS:** Rabbits have been known to carry the disease tularemia, which can be transmitted to humans through handling and dressing the carcass. Wear gloves when butchering these animals, if possible, and cook the meat well-done as another precautionary measure. Rabbit is not very nutritious in that it is extremely lean and lacking in fat—a diet consisting of mostly

rabbit meat will lead to a condition of fat starvation known as “rabbit starvation.”

## CLAMS, MUSSELS, & PERIWINKLES

**CHANCES OF BAGGING:** Very good

**WHERE THEY LIVE:** Saltwater, northeast and northwest coastal locales in North America

**WHERE TO LOOK:**

*Clams:* under sand or mixtures of sand and mud in calm backwaters

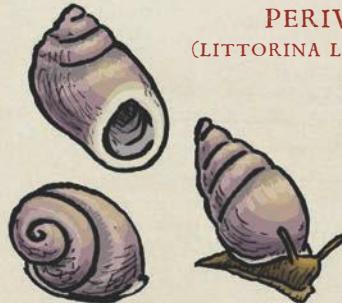
*Mussels and periwinkles:* attached to rocks within a few feet of the shoreline

**WHAT THEY EAT:** Nutrients and microscopic morsels obtained from the water they filter or rocks they live on. They require no bait.

**HUNTING TIPS:**

*Clams:* Dig clams during cooler seasons; clams from warm summer waters have a very short shelf life and tend to be tougher. Look for small holes in the sand—often evidence of clam activity. To dig, use a spade or some other tool to dig deeply into the sand directly beside the hole, bringing up about a foot of sand.

PERIWINKLE  
(LITTORINA LITTOREA)



## HOW TO SPOT A DUD

When hunting, the wild and free grub you eat is not subject to inspection or government health and safety standards (the wild and free grub will also have been, well, wild and free and killed with your own bare hands). That means that disease can be a concern.

There are particular diseases that affect certain populations, and these can vary depending on geographic location. For example, tularemia affects rabbit and other rodents in Arkansas, while squirrels have been known to carry fibromatosis (in the South) and babesiosis (in California). Chronic wasting disease has been seen in a widespread population of elk, deer, and moose in various places across North America. The good news is that you can generally spot a dud fairly easily—here are some quick tips for spotting diseased or otherwise inedible game animals:

### 1. Examine the outside of the body.

- // Do the hair, coat, feathers, skin, or other body coverings look healthy?
- // Does the animal appear to be very thin or emaciated?
- // Any abnormalities such as growths, deformities, or injuries?

### 2. Examine the carcass and internal organs after field dressing.

- // Does the carcass smell?
- // Do any of the organs or the tissue appear abnormal in shape or color?
- // Are there any visible abscesses or tumors?
- // Do any of the tissues or organs appear to contain what might be parasites?

If disease, parasites, or any other abnormality is found in the meat or viscera of any game you have killed, discard the meat and/or organs in a responsible manner, so as not to spread the disease or parasite to other species, by burying or burning them.

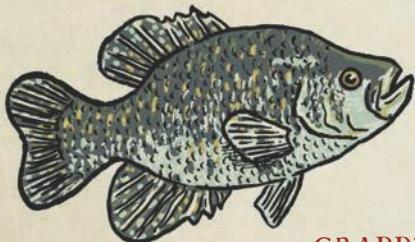


**Mussels:** Mussels can be found in clusters clinging to rocks out in the surf, close to shore. They can be directly removed from the rocks but should only be harvested in cold weather, as they can accumulate toxins during warm spring and summer months.

**Periwinkles:** These tiny little snails also live on beach rocks and can be plucked right off and cooked.

**EATING TIPS:** All do well with gentle steaming or simmering as the cooking method. Remove the fingernail-like sheath on periwinkle meat before eating.





**CRAPPIE**  
(GENUS POMOXIS)

**PANFISH:**  
BLUEGILLS, CRAPPIES,  
SPOTTED & WHITE BASS,  
& YELLOW PERCH

**CHANCES OF BAGGING:** Very good

**WHERE THEY LIVE:** Freshwater across the United States and southern Canada: rivers, lakes, ponds, streams, reservoirs

**WHERE TO LOOK:** Near structures—sunken logs, boulders, boats—and in shade; coves are also excellent places, as they are quiet and away from the main body of water

**WHAT THEY EAT:** A variety of plant and insect life; also:

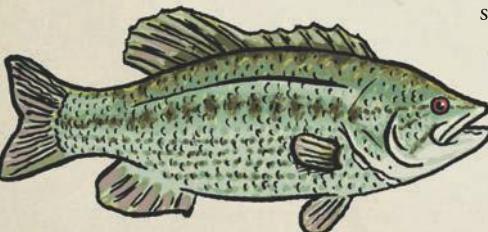
*Bluegills:* Crickets or worms

*Crappies and yellow perch:* Live minnows

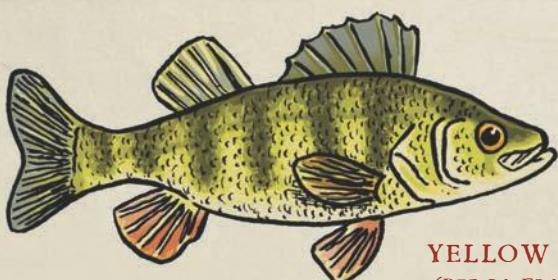
*Spotted and white bass:* Night crawlers

**HUNTING TIPS:** Use small hooks that aren't shiny. These fish can be hunted through the winter by ice fishing.

**EATING TIPS:** They are called panfish for a reason—because they are generally small enough that they fit right in the pan and are often fried whole. Seasoning is a must, as often they are quite bland.



**SPOTTED BASS**  
(MICROPTERUS PUNCTULATUS)



**YELLOW PERCH**  
(PERCA FLAVESCENS)



## WHITETAIL DEER

**CHANCES OF BAGGING:** Fair, will be difficult without a gun

**WHERE THEY LIVE:** Throughout most of the United States, except California, Nevada, and Utah (where you could alternatively hunt the mule deer); most of southern Canada, except British Columbia (where you could alternatively hunt the blacktail deer)

**WHERE TO LOOK:** Dependent on climate and geography—what is perfect deer country in New England is unfit for the deer of Texas. However, the deer is by personality an animal that likes to have many hiding places, and in general they are considered edge habitat animals.

**WHAT THEY EAT:** Vegetation, varies greatly by region. Deers become very accustomed to the foods of their region and will be wary of any food they do not know.

**HUNTING TIPS:** Whitetails are extremely agile and wary. They can run at speeds of 30 miles per hour, zigzagging through the forest to evade predators. They can jump extremely high; there are reports of some deer clearing 8-foot fences. Deer are also homebodies in that they will not leave their home range, which typically covers about a half square mile. They are intimately familiar with their environs—anything that looks, smells, or sounds unfamiliar is suspect. The keen sense of smell in deer is legendary, so it is crucial to remain downwind from them. Their

hearing is also acute. Tracks are a good way to identify deer territory, as are droppings. During the winter, head-level tree bark and branch nibbling is a good indication of their presence.

**EATING TIPS:** Deer provide a whole lotta eating. Store meat in cool shaded rivers or stream beds where it can be kept for long periods, or dry meat out for jerky (see *Food Preservation in the Wild*, page 280). The tongue and heart also make for excellent offal (see *The Offal Truth about the Zpoc*, page 264).

## WOODLAND GAME BIRDS: GROUSE, PHEASANT, & PIGEON

**CHANCES OF BAGGING:** Reasonable with firearm, traps, and snares

**WHERE THEY LIVE:**

*Grouse:* Virtually every northern North American habitat, from the old pastures to open plains and coniferous forests

*Pheasant:* Much of the United States, with excellent populations in the Dakotas, Kansas, Nebraska, and Iowa; most of southern Canada

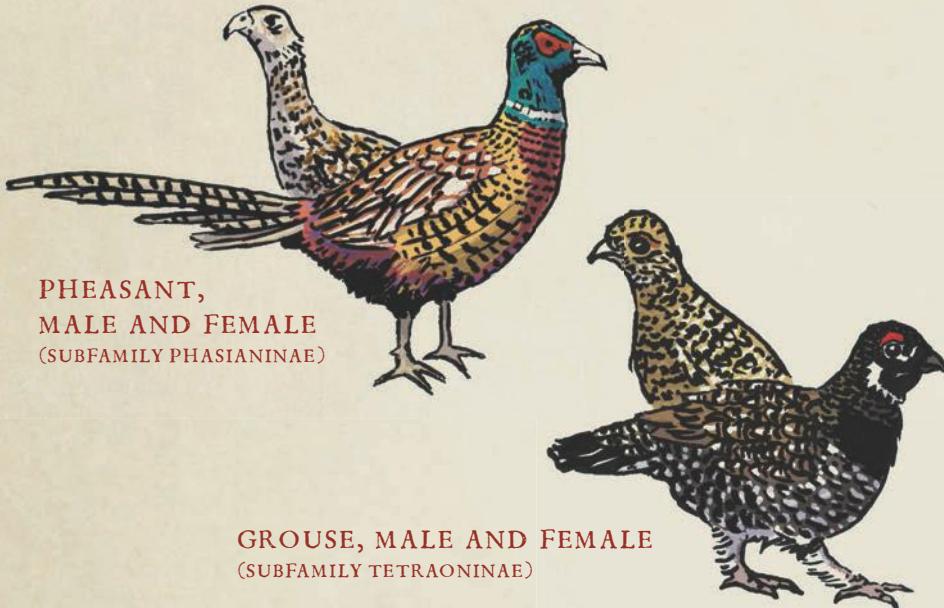
*Pigeon:* Much of North America (rock pigeons are typical in urban and suburban settings, while the band-tailed pigeon are common in rural and backwood locales)

**WHERE TO LOOK:** On the ground, typically in some form of cover

*Grouse:* Varied edge habitats offering dense cover

*Pheasant:* Woodlands close to human centers, especially near grain farmland





**PHEASANT,  
MALE AND FEMALE  
(SUBFAMILY PHASIANINAE)**

**GROUSE, MALE AND FEMALE  
(SUBFAMILY TETRAONINAE)**

**Pigeon:** Dark, secluded, and elevated spots in urban/suburban settings, like in the steel framework under bridges or behind air conditioning units; forests and other woodlands

**WHAT THEY EAT:** Seeds, vegetation, and insects

**HUNTING TIPS:** While locating game birds like pheasant and grouse without hunting dogs can be difficult, if you have access to firearms you can find and flush them yourself. Alternatively, because these are ground-dwelling birds, snares or traps can be quite effective. Be sure to learn what kinds of local foods they enjoy eating that can be used for bait.

**EATING TIPS:** The texture and flavor of most game birds do well with aging—hanging the unplucked eviscerated carcass for 3–10 days in (at highest) 50°F–60°F temperatures. Aged birds must be dry plucked (see *Basic Field Dressing & Butchery*, page 37). They are excellent roasted skin on.

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**RECOMMENDED READING:** For more on hunting in wild and not-so-wild places, check out *Hunt, Gather, Cook: Finding the Forgotten Feast* by Hank Shaw; *The Small-Game and Varmint Hunter's Bible* by H. Lea Lawrence; and *North American Game Animals* by Byron W. Dalrymple.

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# SPIT-ROASTED PHEASANT

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Pheasant is probably the best known game bird in North America. A woodland bird (along with others like grouse and pigeon), pheasants are ground dwelling, meaning they spend most of their time scratching around in the brush and under cover for food—making snares and traps an effective (and quiet!) way of catching them. Pheasants subsist primarily on seeds, grain, and berries, making these attractive as bait. When hunting pheasant with a gun, be sure to watch carefully where they drop—they will blend into their environment almost perfectly, which can make it hard to retrieve them. See *Wild Game Hunting during an Undead Uprising* (page 255) for additional tips on hunting pheasant.

As Hank Shaw, author of *Hunt, Gather, Cook*, says, “when life gives you a beautiful pheasant . . . you should roast it whole like a chicken.” Hank also points out that many lean game birds often dry out quickly during cooking, so this wilderness-appropriate adapted recipe employs a short brining before roasting. If brining ingredients like salt and sugar are not accessible, consider braising your bird instead, along with some foraged root vegetables and wild garlic. See *Foraging at the End of the World* (page 102) for more information on finding the wild bayberry and juniper berries called for in this recipe.

If you don’t have access to a large vessel for wet plucking, you can improvise a substitute.

Add several rocks (see *Cooking with Rocks*, page 269) to a large fire and let the fire burn down completely. In the meantime, dig a large hole (at least 3 feet wide by 3 feet deep) and then line the hole heavily with nonpoisonous vegetation. Add the rocks to form a similar lining, then fill the hole with water. Add additional hot stones to increase the temperature further and replenish the water as needed.

This recipe is adapted from Hank Shaw’s “Simple Roast Pheasant” recipe on the Hunter, Angler, Gardener, Cook blog ([honest-food.net](http://honest-food.net)).

## YIELDS:

1 Hungry Survivor serving, 2 Regular Joe servings

## REQUIRES:

Chef’s or survival knife and flexible plastic cutting board

1 wooden frame for spit roasting  
(instructions on page 273)

1 mess kit pot

1 large pot, large resealable plastic bag, or other food-safe container

## HEAT SOURCE:

Direct, open flame

## TIME:

30 minutes prep

2–8 hours inactive brining time

45 minutes roasting time



## INGREDIENTS:

- 4 c. potable water
- ¼ c. salt
- 1 tbsp. sugar
- 5 foraged bayberry leaves
- 1 tbsp. foraged and crushed juniper berries
- 1 pheasant, freshly killed

## METHOD:

- ① Make sure a knife or knives are sharpened and ready. Gather materials for a cooking fire and spit (see *Bushcraft & Improvised Cooking Implements*, page 272).
- ② Start the fire. In a mess kit pot, bring the water, salt, sugar, bay leaves, and juniper berries to a boil. Remove from heat and let cool to ambient temperature.
- ③ In the meantime, wet-pluck and dress the bird (see *Basic Field Dressing & Butchery*, page 37), leaving the skin on. Once eviscerated, separate out the gizzard, heart, and liver. Inspect for any obvious illness or disease and retain all healthy-looking tidbits for stock or other eating (see *The Offal Truth about the Zpoc*, page 264). Being very careful, cut out the little green gallbladder from the liver—do not pierce it! It contains bitter and unpleasant liquid that is difficult to rinse away and will taint the meat. Chop off the feet and head. Remove any remaining neck bone, which can be used in stock. The bird should now be open on either end and ready for spitting.
- ④ By now the brine should have cooled sufficiently. Put the cleaned bird into a large

## ZOMBIE ANIMALS: YEA OR NEIGH?

Along with the bugging in versus bugging out, the fast zombies versus slow zombies, and several other debates among zombie nerds enthusiasts, the question as to whether or not animals can be zombified is another issue that has been known to cause people to fight like cats and dogs.

The simple answer? Science! Also: it depends on what caused the outbreak in the first place—a virus, a prion disease, a parasite—and if that agent can affect other animals.

For example, with viral-based zombie outbreaks, the vector will not typically be able to jump easily from humans to other species (though, hello, avian and swine flus are definite indicators that viruses are some clever emeffers).

That said, you probably have noticed that the information and recipes in this section are predicated on a zpoc where animals are *not* zombies. Natch, if Rocky and Bullwinkle are trying to tuck into you, the wilderness is *not* the place to be.



pot, resealable plastic bag, or other food-safe container and cover with the brine. If needed, cover the vessel to keep out bugs and other debris. Brine the bird for about 2 hours, or up to 8 if you have cool (below 40°F) temperatures. Flip the bird halfway through brining if it is not fully submerged.



- ⑤ Construct the spit over the cooking fire, being sure to set it to a height that will enable high-heat 500°F roasting (see *Judging Temperature*, page 47).
- ⑥ Remove the pheasant from the brine and pat dry with a clean piece of material. Put the bird onto the spit, adjusting it as needed so it catches the sharp points in the middle.
- ⑦ Cook the bird over high 500°F heat for 15 minutes, rotating constantly. Remove the support sticks and reset them for cooler cooking (350°F). Continue roasting the bird for another 30 minutes, still rotating constantly. The pheasant is cooked through when you pierce the thick flesh of the thigh down to the bone the juices run clear. If you are a super survivor and have a meat thermometer, you are going for an internal temperature of 155°F.
- ⑧ Let the bird rest for 15 minutes before carving up and eating. Serve with *Get Your Undead Pawpaws Off Me Compote*, below, if you have access to the fruit.

## GET YOUR UNDEAD PAWPAWS OFF ME COMPOTE

---

Pawpaws are speckled mango-shaped fruits with a lovely buttery texture and a mango-meets-banana flavor. It's hard to believe this tropical-like fruit grows here in North America, and most of them wild at that.

Pawpaw trees are native to eastern North America, were enjoyed through the years by Mr. Thomas Jefferson, and relied on by Lewis and Clark when expedition supplies ran low in 1806. Today you can find them in sun and part shade throughout eastern and midwestern North America, but they are most common in the southeast. The fruits, which start off bright green and mature to yellow, ripen in the fall. So do the lovely bright red berries of the spicebush,

also featured in this recipe, whose flavor is a spicy combination of clove and orange that compliments game beautifully. See *Foraging at the End of the World* (page 102) for more on finding these wild foods.

You will probably eat most of these fleeting fresh fall foods raw, but if you care to cook them down, this excellent compote goes well alongside the *Ah Nuts-Crusted Rabbit* (page 278) or *Spit-Roasted Pheasant* (page 261). If you are having trouble bagging game, you can also spoon it over some plain rice from your BOB for breakfast.

This recipe is adapted from "Cinnamon-Spiced Pawpaw Compote with Pecans" in *Foraged Flavor: Finding Fabulous Ingredients*



*in Your Backyard or Farmer's Market* by Tama Matsuoka Wong with Eddy Leroux.

#### **YIELDS:**

About 1½ c. compote

#### **REQUIRES:**

Chef's or survival knife and flexible plastic cutting board  
Mess kit pan or pot  
Wooden spoon or other tool for stirring

#### **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* (page 42)

#### **TIME:**

5 minutes prep time  
10 minutes cook time

#### **INGREDIENTS:**

3 ripe foraged pawpaws, about 1½ c. flesh  
2 tbsp. foraged spicebush berries, roughly chopped  
1 tbsp. granulated sugar (if available from BOB) or burgled honey (optional)

#### **METHOD:**

- ① Set up a cooking fire or other *Stovetop Hack*. Peel the pawpaw and remove the seeds. Roughly chop into smaller chunks and add to mess kit pan or pot. Rinse the berries with potable water and rough chop; add to the pawpaws along with the sugar or honey, if available.
- ② Cook, stirring frequently, over medium-low heat until the fruit breaks down and thickens, about 10 minutes.

# The Offal Truth about the Zpoc

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The term “offal,” or “variety meats,” refers to the edible organ meats and extremities of animals, including the liver, heart, and lungs (collectively referred to as the “pluck”) as well as the head, feet, tail, testicles, brains, and tongue, among other tasty items.

Come the ZA, you can be sure that eating nose-to-tail will be on the menu. If you are clever and successful enough to bag game, you had better damn well make use

of every last bit of that animal, right down to its tooter (“imitation calamari” anyone? Go ahead, Google it). Besides, these meats offer up a variety of good stuff: vitamins A, C, and D; B vitamins; zinc; iron; phosphorus; and niacin, to name just a few.

The type and age of an animal will affect how tasty its offal is—younger animals tend to have the yummiest innards. Offal typically doesn’t keep all that long, much less so than



muscular meat, so be sure it is one of the first things you cook up after butchering an animal.

See *How to Spot a Dud* (page 257) to learn when to avoid organ meats.

## BRAAAAI I I I NNNN SSSS

Yes, brains. They aren't just for zombies! Most people think brains are gross, or they are scared that, by eating them, they might turn into a spongiform zombie themselves. The truth is, most brains (*ahem*, bovine aside) are safe to eat. But they spoil very quickly and should be poached gently (in milk if you've got it) before cooking. They take very well to breading and frying.

## HEART

Heart meat is dense and fibrous but in exchange offers up the intensified flavor of whatever animal it came from, making it an excellent option for stock making. Hearts contain several ventricles along with a tough outer membrane that need to be removed before cooking, but leave as much fat on there as possible to help keep it moist! Any cooking method you'd use for tough cuts is suitable here, braising being a great option. But don't rule out other methods like grilling or roasting—see *The Venison Heart of the Matter* (page 266).

## KIDNEY

Kidney is chock-full of nutrition and is an excellent source of protein and B vitamins. Generally kidneys benefit from either a quick and very hot panfry or a low and slow braise; they tend to become quite tough

## TAKE STOCK, MAKE STOCK

If you are fairly stationary and have access to a good-sized pot, one good way to use bones, offal, and other trimmings is in a stock. Brown the meaty bits before throwing in whatever seasonings (juniper, wild garlic, wood sorrel, and bayberry are good wild options) and vegetables you can get your hands on, then simmer on low for a couple of hours.



with any cooking in the center of the time/heat spectrum. Healthy kidneys are smooth and deep red.

## LIVER

Being a workhorse organ, liver tends to have a big, meaty, and slightly metallic flavor. When cooked whole or in chunks, its texture will likely be heavy and dense, which is why it is often thinly sliced for cooking. It can be baked, broiled, boiled, fried, or sautéed. Make sure the liver is smooth, deep red, and free of spots or ulcerations.

## MARROW

Marrow is the soft and succulent tissue that lives inside bones. White marrow is the fatty stuff prized by gastronomes, full of protein and monounsaturated fats. Of course, you need to be bagging game that is big enough to make extracting marrow worthwhile; pre-zpoc it is most often harvested from



beef bones. Marrow is best roasted or used to add body to stocks.

## PRIVATE PARTS (AKA PIZZLES & TESTES)

The average North American would balk at the thought of eating an animal's privates, but reproductive organs are enjoyed and even prized by many Asian cultures. According to Fuchsia Dunlop, chef and food-writer specializing in Chinese cuisine, in Chinese medicine a soup of penis is believed to strengthen the forceful, masculine yang energy of the body and is often prescribed to improve low sperm counts.

Forceful masculine energy and a potent sperm bank are two things worth investing in come the end times, wouldn't you say, fellas? So moral of the story? If you bag a stag, eat its pizzle. If you bag any other large male game animal, eat its pizzle. (Just first be sure to blanch them repeatedly to remove its naturally musky flavor and then slow simmer for at least 5 or 6 hours to tenderize.)

To prepare testicles, blanch them for a couple of minutes then remove the outer membrane. From here you can poach, sauté, grill, roast, or braise—but the most popular preparation is breaded and fried. When castrating your kill, the marks of healthy testes are a pleasant pink hue and nice, firm texture.

## TONGUE

Tongue is more popular than you might think. It is the star ingredient in the hot tongue sandwich, a fixture in many a kosher deli. Delicious little fried cod tongues are well loved in Norway and eastern Canada, and spicy duck tongue sandwiches are a staple of Szechuan cuisine. Mammalian tongues need a gentle preparatory simmer for a couple of hours to tenderize them before final preparation, and a brine before that if you can swing it. Also remove the tough outer membrane before final cooking. Fowl tongue can be cooked at high heat without simmering or braising, but remember to remove the bone inside first.

# THE VENISON HEART OF THE MATTER

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If you are a zpoc survivor who never hunted pre-undead rising, it will be a major accomplishment to bag your first deer (or elk, moose, or caribou). Depending on the size of your group, bagging a deer will leave you with *a lot* of leftover muscle meat, and so

really is best done when you can afford to spend a few days in one place smoking and otherwise preserving it.

But don't forget the offal in the middle of all that excess! While small-game animals like squirrel or pheasant leave you with just





a few tasty offal morsels to fry up and enjoy as a snack, larger game will provide enough meat from the heart, liver, kidneys, and other organs to provide a significant meal. These should never be wasted, unless they are sick or diseased (see *How to Spot a Dud*, page 257), and because they tend to spoil quickly should be the first thing you eat after dressing your game.

Hearts, being the workhorses they are, take well to braising, though a nice healthy (and reasonably young) heart can be marinated with oil, herbs, wild garlic, and spices then cooked until just warmed through

and still pink in the middle, as in the recipe here. This recipe also makes use of another fall wild edible, smooth sumac berries, in place of a more traditional acid like lemon juice or wine to tenderize the meat. The flavor of the sumac berries, along with that of crushed juniper berries, makes this a very wild and woodsy preparation. See *Foraging at the End of the World* (page 102) for more on foraging these wild ingredients.

#### **YIELDS:**

1–2 Hungry Survivor servings, 2–4 Regular Joe servings (depending on animal and size of heart)



## **REQUIRES:**

Chef's or survival knife and flexible plastic cutting board  
1 wooden frame for spit roasting (instructions on [page 273](#))  
Resealable plastic food bag  
Spit with adjustable pegs for roasting the heart

## **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack* ([page 42](#))

## **TIME:**

8 hours prep (mostly inactive)  
10 minutes cook time

## **INGREDIENTS:**

1 venison (deer, elk, moose, caribou) heart  
 $\frac{1}{4}$  c. olive oil  
3 tbsp. juice from foraged smooth sumac berries  
2–3 small bulbs foraged wild garlic, minced  
2–4 foraged juniper berries, minced  
Salt & pepper, to taste

## **METHOD:**

- ① Make sure a knife or knives are sharpened and ready. Gather materials for a cooking fire and spit (see *Bushcraft & Improvised Cooking Implements* on [page 272](#)).
- ② Trim the heart: Using a nice sharp knife, remove excess fat from the top and around the heart, leaving a small amount intact to help

keep the heart moist during cooking. Using the natural openings on the top of the heart as a guide, cut it into 3 or 4 pieces. Remove all the veins and other tissue from the surfaces of these pieces, then add the heart to a resealable plastic bag along with the oil, sumac berry juice, wild garlic, juniper berries, and black pepper to taste. Rub the pieces of heart lightly with the oil and seasonings, wash your hands thoroughly, then push out the excess air from the back and seal tightly.

- ③ Find a nice cool stream and submerge your bag in a shady spot. Weigh it down with stones and try to camouflage with leafy branches to hide it from wild predators like bear or raccoon. Let the heart marinate for 2 or up to 8 hours (in cold temperatures of 40°F or cooler).
- ④ Start the cooking fire and construct the spit, being sure to set it to a height that will enable high-heat 500°F roasting (see *Judging Temperature*, [page 47](#)).
- ⑤ To cook, slide each of the 3 pieces of the heart onto the middle of the spit, using the sharp points to anchor the meat. Salt liberally, then cook until heated through, rotating constantly, about 10–15 minutes. If you have a meat thermometer, you are going for an internal temperature of 135°F. Let the heart rest about 10 minutes before slicing up. Sprinkle the slices with additional salt and pepper if desired. Enjoy.



# Earth Oven

More primitive than the *Mud Oven* (page 320), the earth oven (also known as a pit oven) is an equally useful means of cooking that is simple to set up, far less permanent, and made completely with available natural resources, making it a great option for survivors who are transient or have not yet settled into their *Long-Haul Bug-Out Location* (page 306). Like the mud oven, an earth oven makes use of the immense insulating ability of dirt. Food is wrapped in lush nonpoisonous vegetation and buried along with hot stones for a steam-like cooking process. When well executed, the oven's internal temperature can stay stable for upward of 24 hours.

The temperatures the oven achieves will depend on the size of your pit, the rocks you use, and the temperature of the rocks before you cover the pit, but

generally cooking takes much longer than in a pre-zpoc conventional oven. It is a gentle, low, and slow way of cooking, making it a great option for steaming fish or foraged edibles and braising tough cuts of meat or offal (if you have the appropriate cooking vessel available).

## WHAT YOU WILL NEED:

- ★ Tinder, kindling, and fuel for a large fire
- ★ 10–20 hard, dry rocks (see *Cooking with Rocks* below), roughly 4" x 6"
- ★ Nonpoisonous lush vegetation or tinfoil (if available)

① Dig a hole at least 2 feet wide and 2 feet deep, keeping the dug-out earth beside the pit for later use. Add rocks to line the bottom and halfway up the sides of the pit. Use any remaining rocks to create a thicker bed at the bottom of the pit.

② Construct a fire over the bed of rocks, with enough fuel to overfill the pit by a foot or two. Do not worry about a particular pattern for laying out the wood, but leave sufficient space to light the fire from underneath.

③ Light the fire. Keep the fire burning fiercely for at least an hour, preferably 2, then let it burn down to ash. Once it has burned down, the rocks should be glowing and sufficiently hot for cooking.

### COOKING WITH ROCKS

When using rocks in cooking, avoid any that may have come from a water source—typically they will be very smooth and well rounded. These rocks have the capacity to explode if their moisture content is still high: As the water trapped within them heats rapidly, it expands and could expel shards of rock.



- ④ Place whatever food you would like to cook, well wrapped in nonpoisonous green vegetation (or tinfoil), onto the stones. Add another thick layer of vegetation, then fill in the remaining space with the earth previously set aside in step 1. The high heat from the rocks will disperse to the surrounding earth, creating a temperature much lower than the hot rocks' initial one, but because of earth's excellent ability to insulate, it will stabilize and remain fairly constant for at least 24 hours.
- ⑤ Cuts from small game and fish should take roughly 1–2 hours to cook, while other delicate forageables should take about an hour, foraged roots and tubers roughly 2½–3½ hours.

## HOLY ARTICHOKE!

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Jerusalem artichokes, also known as sunchokes, are the tubers of a native sunflower (*Helianthus tuberosus*) that grows widely across North America. The plants reach 6–12 feet tall, with long slender toothed leaves that reach about 10 inches in length, yellow petals, and a brown disk like most sunflowers, though the petals are more spread apart. They can be found in fields and thickets, near streams and other bodies of water, and along roadsides.

The tubers have a mild artichoke-like flavor (thus the name) and can be dug up and enjoyed much like potatoes. Sunchokes have, perhaps deservedly, picked up the nickname “fartichokes” because of their propensity to cause some people (though not all) to experience intestinal distress—not fun when undead monsters are trying to eat said intestines, so give them a small trial before gorging yourself.

In this simple preparation, the earthy flavor of these tubers is enhanced by the spicy complex flavor of Queen Anne's lace, a fall seedpod that has a lovely flavor combining carrot, celery, and parsley. As the flower goes into seed production, it curls into what looks like a bird's nest and will produce many tiny green seedpods. Harvest the flower heads when these green seeds are visible then pick them out to add to the chokes. See *Foraging at the End of the World* (page 102) for more on foraging the wild ingredients featured here.

### **YIELDS:**

2 Hungry Survivor servings, 4 Regular Joe servings

### **REQUIRES:**

Chef's or survival knife and flexible plastic cutting board  
Mess kit pan or pot





#### HEAT SOURCE:

Indirect, *Earth Oven* (page 269) or other *Oven Hack* (page 44)

#### TIME:

5 minutes prep time  
2½–3½ hours cook time in *Earth Oven*,  
30–40 minutes in other *Oven Hack* or in fire embers

#### INGREDIENTS:

1 lb. foraged Jerusalem artichokes  
3–5 foraged Queen Anne's lace flower heads  
Oil or other animal fat, if available  
Salt & pepper, to taste

#### METHOD:

- ① Set up an *Earth Oven* or other *Oven Hack* for 400°F roasting (see *Judging Temperature*, page 47).



② Thoroughly clean the earth-covered tubers. If you can get most of the dirt off, leave the skin on; otherwise peel with a paring knife. Roughly dice into bite-sized chunks.

③ Remove the green pods from the clusters of Queen Anne's lace. Toss

the seeds and tubers with the fat, salt, and pepper.

④ Cover the mess kit pan and heat until cooked through and tender—about 30 minutes. Serve with *Ah Nuts-Crusted Rabbit* (page 278) or *The Venison Heart of the Matter* (page 266).

## Bushcraft & Improvised Cooking Implements

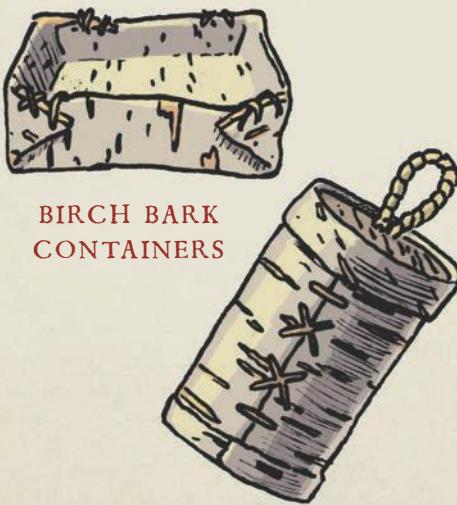
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Broadly speaking, the term “bushcraft” applies to the knowledge and skill of wilderness survival—finding water, hunting, fishing, fire building, and so forth. It also applies to the woodwork often associated with these survival skills.

When you’re cooking out in the wild, these skills can go a long way. Here are a few of the essentials for setting up a functional wilderness kitchen:

### BIRCH BARK CONTAINERS

Birch bark can be used to fashion several different kinds of containers—cups, bowls, boxes—and when freshly harvested from the tree it is flexible and easy to work with. Birch trees are easily recognized by the peeling surface of their white bark and grow through most of the northern states, as far south as the Carolinas. The spring is the best time to harvest birch bark, when it should come off the tree easily. As the summer and



BIRCH BARK  
CONTAINERS

fall wear on, it becomes harder to remove the bark and doing so will cause damage to the tree, preventing it from growing back.

As thickness and quality of bark varies from tree to tree, try to find bark that is at least  $\frac{1}{4}$ -inch thick. To harvest, make a vertical cut



## SIMPLE POT ROD



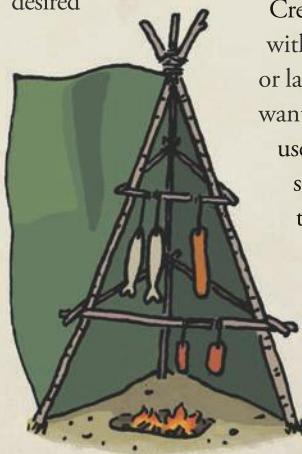
as long as needed for your intended purposes. Cut deep enough to penetrate the removable outer bark but not so deep as to penetrate the inner bark. From here you should be able to peel it off easily from the incision point. Fold or roll the bark to your desired shape, then poke small holes at the seams to sew and secure your container.

## POT RODS

Pot rods collectively refer to a variety of wooden structures and tools used to hang and otherwise support pots over a fire. With a basic spit structure, you can use snare wire or another fireproof material to hang pots, or alternatively, you can whittle notched pot holders from sticks to hang handles from (see image of spit). An even simpler structure could be made from a forked stick supporting a second stick wedged on one end between 2 large rocks (pictured).

## SMOKE TEEPEE

A smoke teepee (pictured) is useful for preserving meats. Fashion the outer structure with 3 forked sticks, securing by tying them together at the top. Create levels within this structure with additional sticks for hanging or laying out the strips of meat you want to smoke. Remember, do not use resinous woods like pine or spruce (any coniferous tree) as the smoke will make the meat taste rancid.



## SMOKE TEEPEE

SPIT

A spit (pictured on the next page) is a simple and easily constructed wooden structure that can be used to roast meats or to suspend pots above the fire (see *Pot Rods*). To construct a spit for roasting, you will need 2 sturdy and forked support sticks about 5 feet long and at least 2 inches thick, and 1 slender branch that is at least 5 feet long and 1–2 inches thick. The slender



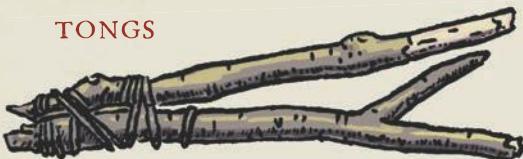


### SPIT WITH NOTCHED POT HOLDER

branch will act as the spit and should be harvested from a living tree so that the wood is “green” and still reasonably moist (to avoid burning while cooking). The spit should also have numerous smaller branches coming off it, particularly in the center, which can be whittled down to small, sharp points and used to anchor the meat. You can also whittle the single ends of the forked support sticks to sharp points in order to help stake them into the ground on either side of the fire.

### TONGS

Tongs (pictured) are useful for flipping, extracting, and generally doing things that your bare hands otherwise could not. In a world where fire is our main mode of cooking, tongs are a must for the BOB but can also be constructed from natural materials if needed. Find 2 sticks that will naturally fork when bound together, then make use of the resulting tension.



### TONGS

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**RECOMMENDED READING:** *For more on bushcraft and building a functional camp kitchen, check out Bushcraft: Outdoor Skills and Wilderness Survival by Mors Kochanski and Bushcraft: A Serious Guide to Survival and Camping by Richard Graves.*

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# It's Autumn, Go Nuts!

During a zedpocalypse you better become a nutter (the term for those who forage nuts) pronto. Nuts will prove to be an invaluable source of food come autumn—they're calorie rich and full of fat. With over 60 species of oak tree in North America (all of which produce nuts), you should, at the very least, be able to find a few measly acorns in a local park or green space. Because of their high fat content, nuts will eventually spoil (go rancid); the edible shelf life varies from nut to nut. Dry roasting over low heat or storing nuts in cold/freezing temperatures will help extend their shelf lives.

Here's the skinny on what nuts you should be able to find out in the wild:

## ACORNS

The familiar acorn is quite plentiful; as mentioned, there are over 60 species of acorn-producing oaks to be found throughout North America. Humans have been eating acorns for (nearly) forever—evidence of their consumption has been found amid the debris in Paleolithic cave dwellings.

Oak trees (*genus Quercus*) are broadly divided into 2 categories: red (aka black) and white. Generally nuts from red oaks have a high tannin content and therefore are quite bitter. The white group produces considerably less bitter nuts; however, some people still find them too bitter to



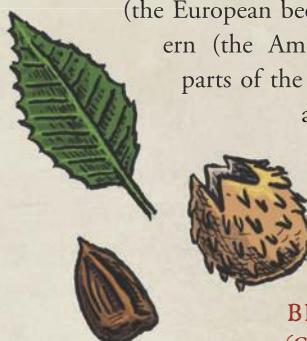
ACORN  
(*GENUS QUERCUS*)

eat without treating. You can pick out a red from a white oak by its leaves: red oaks have leaves with pointed lobes whereas white oaks have rounded lobes (pictured). Luckily, blanching the nuts repeatedly or soaking for several days/weeks at ambient temperatures will remove the tannins and make the flavor more palatable. Remove the caps and shells before blanching or soaking.

## BEECHNUTS

Beechnuts come from beech trees (*genus Fagus*) and are found in both western (the European beech) and eastern (the American beech) parts of the United States and Canada.

In the fall,



BEECHNUT  
(*GENUS FAGUS*)



they produce prickly burs that eventually split and release the nuts, which have no additional shell. The nuts are highly prized by four-legged creatures, so try to get them before the burs burst open.

Beechnuts have a thin tough layer that can be removed by hand, yielding a delicious sweet flesh and high protein content (20%).

## BLACK WALNUTS

Black walnut trees (*Juglans nigra*) are prized for their wood, but they also produce damn tasty nuts. Unfortunately, their numbers today are much lower than in the past, having been felled en masse to produce guns during both world wars. Still, they can be found throughout most of the eastern part of the United States, except the far north. There are also 4 species with limited geographical ranges in the West.

The nuts are easily recognized, housed within nearly impenetrable shells inside bright green globes (husks). Grab them

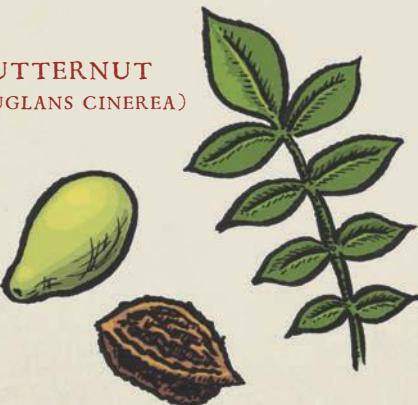


**BLACK WALNUT**  
(*JUGLANS NIGRA*)

before the squirrels do and then get them out of the green husks before they rot and ruin the nuts. Gloves and a knife are the best tools for this task—the husks give off a nearly permanent black dye. Once removed from their husks, rinse the nuts off and dry them in their shells, either in the sun for a couple of days (in a place protected from critters and looters, of course) or over low heat. The nuts keep best in their shells.

The shells are a major pain to break, needing the use of excessive force. This often leads to fragmented nuts that need to be picked out of busted-up shells—but trust me, it's totally worth it.

**BUTTERNUT**  
(*JUGLANS CINEREA*)



## BUTTERNUTS

A close relative to the black walnut is the butternut (*Juglans cinerea*), a tree that ranges further north than the black walnut and covers most of eastern North America save for Florida and Louisiana. The butternut (often called the “white walnut”) has the highest nutritional value of all edible nuts; it’s 28% protein and 60% fat. Butternuts are housed



in a thin, green, egg-shaped outer husk with brown bristly hairs. The outside of the husk gives off a killer brown dye, and the inside contains bright orange dye—meaning gloves are good if you care about the color of your hands.

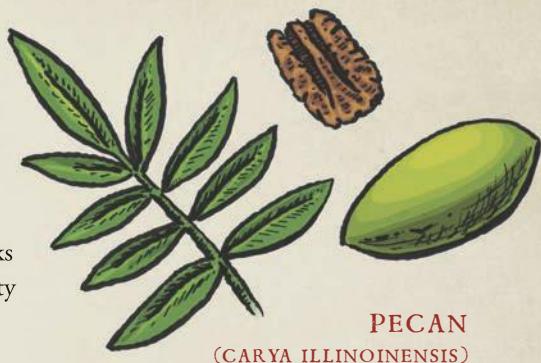
Like walnuts, they should be rinsed after being removed from their husks and then dried. They are sweet and tasty right out of the shell.

## HICKORY NUTS

There are 20 species of hickory tree (genus *Carya*) widespread throughout eastern and central North America. Their wood is generally excellent for smoking foods (squirrel jerky anyone?), but not all species produce enjoyable nuts. Many produce tiny and/or extremely bitter nuts that can't really be treated to remove tannins (as with acorns). The shellbark hickory (*Carya laciniosa*), shagbark hickory (*Carya ovata*), and pignut hickory (*Carya glabra*) are your best bets for decent-tasting nuts.

## SHAGBARK HICKORY

(*CARYA OVATA*)



PECAN

(*CARYA ILLINOINENSIS*)

## PECANS

Pecans actually come from a type of hickory tree (*Carya illinoensis*), and pre-zpoc they are used extensively in baking and cooking. The nuts are housed in oval green husks that hang in small clusters on the trees. By mid-fall the husks split and the ripe nuts fall to the ground. The pecan is awesome: it is easy to harvest, thin-shelled, and very tasty. Gather all you can get! You can find them in Arkansas, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and Texas.





## AH NUTS-CRUSTED RABBIT

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This is an excellent recipe for survivors who find themselves in the wild during the fall: The rabbits are fattened up after a summer of eating well, they are less stressed and less prone to parasites in the cool weather, Poor Man's Pepper seedpods will be ready for harvesting (see *Foraging at the End of the World*, page 102), and nuts will be plentiful.

I have used acorns in this recipe, but any tree nut that you have access to—beech, hickory, or even pecan if you are lucky—can be used in its place. See *Wild Game Hunting during an Undead Uprising* (page 255) for tips on hunting and trapping rabbits and *It's Autumn, Go Nuts!* (page 275) for tips on collecting and processing wild nuts.



## **YIELDS:**

1 Hungry Survivor serving, 2 Regular Joe servings

## **REQUIRES:**

Chef's or survival knife and flexible plastic cutting board

1 small birch container or mess kit bowl

1 large birch container or mess kit bowl

Blunt pestle-like tool for crushing nuts and seedpods

1 fork

## **HEAT SOURCE:**

Indirect, *Ammo Can Oven* or other *Oven Hack* (page 44)

## **TIME:**

10 minutes prep

20 minutes bake time

## **INGREDIENTS:**

½ c. foraged Poor Man's Pepper seedpods

Dash of oil from BOB or other animal fat

1 c. seasonal tree nuts

½ c. breadcrumbs from BOB or use day-old *Bannock* (page 244)

1 tbsp. mixed spices from Savory

Survival Tin or BOB, such as:

cayenne, garlic powder, salt, pepper, thyme, and oregano

Salt, to taste

1 dressed and quartered rabbit (see *Basic Field Dressing & Butchery*, page 37)

## **METHOD:**

① In a small container mash the Poor Man's Pepper seedpods with a small amount

of oil until a thick paste forms. In a second, larger container, crush the processed nuts until uniformly and finely broken down. Add the breadcrumbs to the nuts, along with the spices and salt, to taste. Toss well then set aside.

② Set up an *Ammo Can Oven* or other *Oven Hack* for about 350°F roasting (see *Judging Temperature*, page 47).

③ Using a fork or other tool, prick several holes into each of the pieces of rabbit. Sprinkle each piece liberally with salt, being sure to keep one hand clean (i.e., away from the meat) for touching the salt; the other hand can rub in the seasonings and flip the meat. With your rabbity hand, smear the mashed seeds all over pieces of meat until evenly covered, then using the same hand dip each piece of meat into the crushed nut mixture and turn until well coated. If skewering the meat, do so now.

④ Wash up, then roast the meat in the *Oven Hack*, being careful to cook slowly and not burn the nuts. At 350°F the rabbit should take about 15–20 minutes to cook through (reaching an internal temperature of 160°F if using a meat thermometer). Let rest and cool slightly before eating.

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**TIP:** *Rabbits tend to have full intestinal tracts, and the organs will start to turn rather quickly, meaning they should be skinned and eviscerated within about an hour of killing.*

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# Food Preservation in the Wild

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As you become more proficient at hunting (or perhaps you already are!), you might start to bag bigger game, or you might come across an abundant game population and decide it's smart to spend a few days of dedicated hunting and preserving to stockpile food for a few weeks. Either way, you'll benefit from knowing some basic food preservation techniques for the wild. For a more stable and long-term way of preserving food, consider *Building a Root Cellar* (page 190).

## DRYING & SMOKING

Drying and smoking is one of the simplest methods for preserving virtually any meat, fruit, or vegetable. You can dry foods simply with the power of the sun—though this method should only be used in cool and dry climates or seasons. Otherwise you can make use of a low and smoky fire, called a smudge fire, to help dry the food out while also keeping insects away (see *Squirrel Jerky*, page 199).

Slice the food you wish to dry as thinly as possible. When drying meats or vegetables, if you have access to salt, sprinkle the pieces to help draw out moisture and enhance flavor. Scavenged window screens are great for drying as they allow for free air flow; just be sure to elevate the screens so the food is dried, and not cooked, by the heat of the smudge fire.

The food is sufficiently dried when it is

brittle, leathery, and hard to chew. Dried in this way, meat can keep for several weeks without refrigeration, while fruits and vegetables will keep for longer. When stored in cool, dry, and dark environments, dried foods can keep for several months.

## WATER IMMERSION

An excellent way to keep foods fresh for at least a few days is by immersing them in a cold stream, lake, spring, or creek. Make use of the resealable bags in your BOB and seal food within several layers of bags if possible, giving it extra protection and dampening its scent to predators. Try to submerge your food in a shady area and create some kind of cover with branches. Weigh foods down with rocks to keep them in place.

If the water is cold enough (30°F–40°F or so), you can follow the same basic food safety practices as you would with refrigeration. If the water is warmer, that time will be decreased.

## CACHE PITS

A cache pit is a lower-tech version of a root cellar, a way of temporarily storing and protecting food by burying it. The preservation power of your cache pit will depend on ground temperature and how deep the pit is, but generally it is a method that offers hours, as opposed to days, of preservation.



## ZEDS EATING ANIMALS

So what's the deal with zombies eating animals? Will biters, in fact, eat anything other than human flesh? In *The Walking Dead*, zombies have been seen chowing down on a huge helping of venison tartar, and the father of the modern zombie, George Romero, depicts ghouls who will eat anything they can get their hands on (even bugs!) in *The Night of the Living Dead*. But weren't we all relieved when that cute little Chips was able to walk right through that horde of undead in the *Dawn of the Dead* remake? 'Course we were.

In a segment for Howcast.com, Matt Mogk, founder and President of The Zombie Research Society, argues that zombies probably wouldn't pass up the chance for living flesh, even if it wasn't

human. If this turns out to be true, it could have huge ramifications on the food supply for zombie apocalypse survivors as we revert back to an increasingly hunting/gathering-dependent lifestyle. Not only will we have to survive the onslaught of the undead but compete with them for food too?! Dark days.

One bonus we do have over zombies when it comes to hunting, Matt points out, is a fully functioning brain. I mean, let's get real: Most healthy wild animals are not just going to hang around and wait for a zombie to shamble on over and take a bite out of them. That's where our intelligence comes in—we can hunt, trap, and snare animals, giving us some modicum of advantage over our brain-eating competition.



Look for burial sites that are well away from water sources to avoid seepage that could possibly ruin your food. An elevated burial site is ideal, as water drains downhill. Dig a hole several feet deep, then dry it out by covering the inside with hot stones. When the stones have cooled completely, line the hole with dry grass and leaves (make sure they are completely dry). For added protection, wrap your foods in nonpoisonous dried leaves and grass as well before placing inside. Fill in the hole with dried leaves, grass, and bark, then cover with soil

and rocks. Make sure to cover a wide area with rocks to dissuade creatures from trying to dig into your cache from the sides.

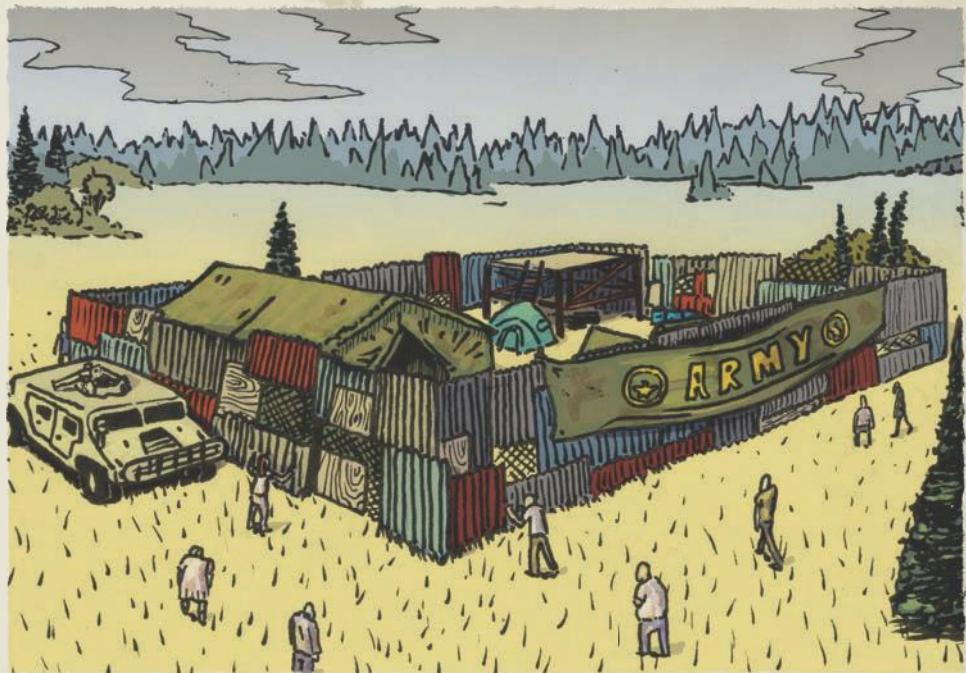
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**RECOMMENDED READING:** *For more low-tech methods of preserving food, check out Preserving Food without Freezing or Canning: Traditional Techniques Using Salt, Oil, Sugar, Alcohol, Vinegar, Drying, Cold Storage, and Lactic Fermentation by The Gardeners and Farmers of Centre Terre Vivante.*

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# ARMY RATIONS: HAVING FUN WITH MRES

## COMPONENTS OF AN MRE



*While it's entirely possible that governments completely crumble under the immense weight of an undead pandemic, chances are you'll come across army-run camps at some point during the zpoc. Or maybe you're a savvy survivor who stocked up on these military rations pre-zpoc. Either way, this chapter offers some fun ways to mix and mash up the monotony of subsisting on the General of shelf-stable meals: the Meal, Ready to Eat.*



# WTF is an MRE?

MRE stands for Meal, Ready to Eat. Each MRE is a self-contained and complete shelf-stable meal for one individual. MREs are the standard field ration for warfighters in the United States Army, and despite the large amount of research and development that goes into making them nutritionally sound and even enjoyable, pre-zpoc MREs still manage to rack up quite the list of disparaging nicknames: Materials Resembling Edibles, Meals Rejected by Everyone, Meals Rarely Edible, Meals Refusing to Exit, Mass Rectal Ejections, and Morale Reducing Elements, to name but a few.

The funny (and simultaneously sad) thing is, MREs are a wonder of food science. They represent the cutting edge of food preservation technologies and the significant ongoing R & D efforts of the military: complete ready-to-eat meals packaged in layered laminate polymer “retort” pouches that keep out moisture, oxygen, and light, with shelf lives of up to 10 years when stored in cool conditions. The entrées include meats, vegetables, and pastas that are not freeze-dried and can be reheated on the spot with the Flameless Ration Heater pouches included with each MRE. In fact, many of the technologies originally developed specifically for the MRE have found their way into mainstream commercial food production: the process used to freeze-dry Kool-Aid or package tuna, for example.

Their history is actually quite interesting,

too. According to Joy Y. Wang in “Materials Resembling Edibles” (*Lucky Peach*, Issue 6: Winter 2013), you can pretty much trace their existence back to Napoleon’s famous 1795 quote, “An army marches on



## CIVILIAN MREs

Though MREs are not technically supposed to be sold to civilians, you can purchase military-issue MREs through private sellers on eBay and other online outlets. The downside when buying privately, however, is that you can’t be certain of the seller’s storage and handling of the MREs before you receive them—and this can have drastic impacts on the quality and shelf life of the product.

The good news is that the independent manufacturers contracted to produce MREs for the US Army also produce civilian editions that are essentially the same as the military issue meals and perennial favorites among preppers. Look for these brands to purchase directly from the manufacturers or through other emergency preparedness suppliers:

- // “Sure-Paks” by Sopakco
- // “APACKS” by AmeriQual
- // “MREs” by Meal Kit Supply
- // “Eversafe Meal Kits” by Wornick



its stomach,” a sentiment that, backed by a 12,000-franc reward for developing a more shelf-stable ration for soldiers, spawned the world’s first iteration of hot-water canning (see *Canning*, page 168). MREs have come a long way from the early days of tinned sardines and creamed chipped beef; the foods that are now offered to soldiers out in the field include things like chicken fajitas, vegetable ratatouille, and spicy penne—or if you are a French soldier, you could be enjoying sauté of rabbit or venison terrine (see *Other Types of Field Rations*, page 294).

But, like all processed foods, MREs lack a certain *je ne sais quoi*. The heat treatment MRE entrées and other pouched foods undergo (after they have already been cooked once) to make them shelf stable, called “retort processing,” inevitably leads to that less than fresh and somewhat duller flavor that most people associate with canned foods. The visual appeal and texture also suffer.

Let’s get real: If there is a hostile zed takeover and I am lucky enough to find myself under government military protection, I will be more than thrilled to shove some Materials Resembling Edibles down my probably starving gullet. I mean, what more could a hungry survivor ask for? Each MRE contains an entrée, a side dish, a snack, a dessert, some condiments/spreads, and powdered beverages like coffee or juice. Not to mention many of them will contain pre-zpoc relics like M&M’s (even the peanut variety!), Twizzlers, Cheez-Its, Combos, and Skittles. Sounds like a dream, right?

## POGEY BAIT

“Pogue” is common military slang for noncombat and administrative personnel. Often, in order to get what a soldier needs from a pogue (clothing, equipment, etc.), they have to offer a bribe (or bait). Therefore the term “pogey bait” refers to nonmilitary food, most often junk food and snacks that soldiers will bring with them when reporting for duty. If you happen to have nonmilitary foodstuff with you when you arrive at a military-run survivor camp, it will be an invaluable trading and bartering tool.



At first, sure. But you can bet that after 30 days or so of the “rib-shaped pork patty,” you might be getting a little antsy. This section provides several recipes and tips for making eating MREs day in and day out a little more palatable.

It should be noted that the military issue MREs produced pre-apocalypse change slightly from year to year, with 1 or 2 of the least popular entrées being replaced. Generally, there are 24 different “menus” on offer at any time, with each menu offering a different entrée. There is some overlap between the desserts and side dishes from menu to menu, as well as among the snacks and condiments. The recipes in this section cover food items available in MREs circa roughly 2008–2013.



# REFUGEE GORP

A staple among backpackers and outdoor enthusiasts, Good Old Raisins and Peanuts (or as it is affectionately known, GORP) is a high-calorie, high-fat, and reasonably nonperishable snack perfect for those on the go. Over time GORP has expanded its horizons to include more than just raisins and peanuts, as you will see here in this MRE-based and yet still entirely tasty recipe.

GORP is also a great food to hide away in your BOB in case your camp is overrun by skels (\*ahem\*, *Zone One*) or crumbles under maniacal and sinister leadership (\*cough\* *28 Days Later*); see *Preparing for the Inevitable* on page 291. Keep your pack in an accessible but covert spot so that you can quickly and easily grab it in the event of emergency.

This recipe should provide enough GORP to keep 1 on-the-go survivor fueled for 24 hours with roughly 3,000 calories. Since all components in an MRE are already conveniently packaged for über-long-term storage, keep all the GORP ingredients separate in their original packaging until you are ready to eat them.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Nut & Raisin Mix: Menus #3, 9, 17
- ★ M&M's: Menu #15
- ★ Cranberries: Menu #5
- ★ Raisins: Menus #18, 20

## YIELDS:

1 day's calories for 1 Hungry Survivor

## REQUIRES:

A BOB (Bug-Out Bag) or other sack or portable container for stashing  
A clean plastic bag of some kind, for mixing

## INGREDIENTS:

5 x MRE-issue Nut & Raisin Mix  
5 x MRE-issue M&M's (or Peanut M&M's)  
1 x MRE-issue Cranberries, Sliced  
1 x MRE-issue Raisins

## METHOD:

- ① Open each of the ingredients and dump into a plastic bag. Give it a gentle shake to combine. Enjoy periodic mouthfuls while on the run, remembering to also hydrate regularly for optimal physical performance (see *The Zpoc Food Pyramid*, page 75).





## HAMBURGER HELP ME

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Once society as we know it has been torn down by an undead menace, Hamburger Helper—much like Spam, hot dogs, Cheetos, and Twinkies—will be relegated to the annals of “pre-zpoc convenience foods.” It’s a convenience food that enjoyed popularity well into the 21st century, but in the pre-zpoc age of heightened health

consciousness, it is a food that nonetheless has become widely regarded as junk. When your life has gone to bumslop, though, I’m guessing you will be more than happy to have a hot steamy nostalgic bowl of nearly-as-good-as-Hamburger-Helper.

The ingredients for this recipe can be found in the following 2012-issue MREs:



- ★ Chili & Macaroni: Menu #10
- ★ Cheese & Bacon Spread: Menu #10
  - or
  - Cheese Spread: Menus #4, 5, 7, 8, 17, 18, 23
    - or
    - Jalapeño Cheese Spread: Menus #1, 2, 15

#### YIELDS:

1 Hungry Survivor or Regular Joe serving

#### REQUIRES:

1 bowl, for eating, if available

#### HEAT SOURCE:

1 Flameless Ration Heater

#### TIME:

10 minutes

#### INGREDIENTS:

1 x MRE-issue Chili & Macaroni  
1 x MRE-issue Cheese & Bacon Spread  
(plain Cheese Spread or Jalapeño  
Cheese Spread can also be used)

#### METHOD:

- ① Add the pouches of Chili & Macaroni and Cheese Spread to a Flameless Ration Heater and activate as per package directions. Let the contents heat for about 10 minutes.
- ② Add the contents of both pouches to a bowl, or, if no bowl is available, add the cheese spread to the macaroni pouch. Mix thoroughly and eat immediately.

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**NOTE:** If you have access to a fire, you might want to crumble then toast one package of standard-MRE-issue "Crackers" (Menus #1, 4, 7, 11, 13, 17, 19) to sprinkle on top for added texture.

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## SHEPHORDE'S PIE

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It seems I am never at a loss for a cheesy pun, am I? When the horde comes banging down your barracks, take comfort in some quintessential comfort food: shepherd's pie. You can prepare this recipe with either of the MRE-issue Beef Pot Roast or Beef Stew entrées.

While not strictly necessary, this recipe benefits greatly from an indirect heat oven-type rig. The Garlic Mashed Potatoes crisp up nicely, and you can crush Vegetable Crackers for added texture and flavor if you're feeling adventurous.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Beef Pot Roast with Vegetables and Gravy: Menu #6
  - or
  - Beef Stew: Menu #9
- ★ Garlic Mashed Potatoes: Menu #7
- ★ Vegetable Crackers: Menus #5, 15



## PREPARING FOR THE INEVITABLE

If we have learned anything from *Zone One* (yes, if you haven't read it, that was a *spoiler*), it's that we must prepare for the inevitable. Or at least be prepared for anything—a safe and secure military compound one day can be a zed buffet the next.

Since MREs are intended to feed and nourish soldiers in active combat duty, if you aren't doing intense physical activity or manual labor in your survivor camp, chances are each meal will supply a surplus of calories—each MRE provides roughly 1,250 calories.

This means that you can *horde*, I mean hoard, the smaller nonperishable items away in your BOB for if/when

TSHTF. This will most definitely give you a leg up if you are forced back out onto the wasteland.

Here's a quick list of items worth stashing:

- // Caffeine Mints
- // Cookies
- // Crackers
- // Dehydrated granola with milk
- // Energy bars
- // Jerky
- // M&M's
- // Pretzels
- // Skittles
- // Spreads: cheese, peanut butter, blackberry jam
- // Twizzlers



### YIELDS:

1 Hungry Survivor or Regular Joe serving

### REQUIRES:

1 mess kit bowl or other small pot (if cooking over fire) with lid

1 small frying pan (if cooking over fire)

### HEAT SOURCE:

Indirect, *Ammo Can Oven* or other

*Oven Hack* (page 44) (optional), and 1 Flameless Ration Heater

### TIME:

20 minutes

### INGREDIENTS:

1 x MRE-issue Garlic Mashed Potatoes

1 x MRE-issue Vegetable Crackers

1 x MRE-issue Beef Pot Roast or Beef Stew

### METHOD:

① Set up an *Ammo Can Oven* or other *Oven Hack* for 350°F baking (see *Judging Temperature*, page 47).

② Using a Flameless Ration Heater, heat the Garlic Mashed Potatoes as per package directions for about 10 minutes to make them easier to work with.



- ③ In the meantime, crush the Vegetable Crackers inside their packaging using your hands or another blunt object.
  - ④ Add the Pot Roast or Beef Stew to a mess kit bowl or a small pot. Cover with the now-warm (and somewhat more pliable)
- mashed potatoes. Sprinkle with the crushed crackers.
- ⑤ Bake for about 10–15 minutes or until the top is browned and the contents bubbling. Let cool for a few minutes before eating.

## GEEDUNK MAGICAL LAYER BARS

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The word “Geedunk” is old Navy slang for candy, chips, and soda and reportedly comes from the sound these items made when they fell out of a vending machine. The name is appropriate here because this MRE version of the Magic Layer Bar consists almost entirely (unless you substitute the Chocolate Peanut Spread for Peanut Butter, then entirely) of junk.

I won’t lie, these pale in comparison to the pre-zpoc originals. But if they can satisfy my sweet tooth, chances are yours will be satisfied too. After all the living hell you’ve been through, your brain probably can’t even conjure a decent memory of what the originals tasted like, anyway. Yum!

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Fudge Brownie: Menu #2
- ★ Blackberry Jam: Menus #3, 9, 16, 19, 22

- ★ Chocolate Chip Toaster Pastry: Menu #4
- ★ Chocolate Peanut Spread: Menu #6  
*or*  
Peanut Butter: Menus #3, 9, 12, 13, 14, 16, 19, 22
- ★ Peanut M&M’s: Menu #13  
*or*  
Plain M&M’s: Menu #15
- ★ Kreamsicle Cookie: Menus #6, 7, 11

### YIELDS:

1 Hungry Survivor or Regular Joe serving

### REQUIRES:

Chef’s or survival knife and cutting board  
1 plate or bowl

### HEAT SOURCE:

1 Flameless Ration Heater

### TIME:

10 minutes



## INGREDIENTS:

- 1 x MRE-issue Chocolate Peanut Spread  
*or* Peanut Butter
- 1 x MRE-issue Fudge Brownie
- 1 x MRE-issue Blackberry Jam
- 1 x MRE-issue Chocolate Chip Toaster Pastry
- 1 x MRE-issue Peanut M&M's *or* Plain M&M's, crushed
- 1 x MRE-issue Kreamsicle Cookie, crushed

## METHOD:

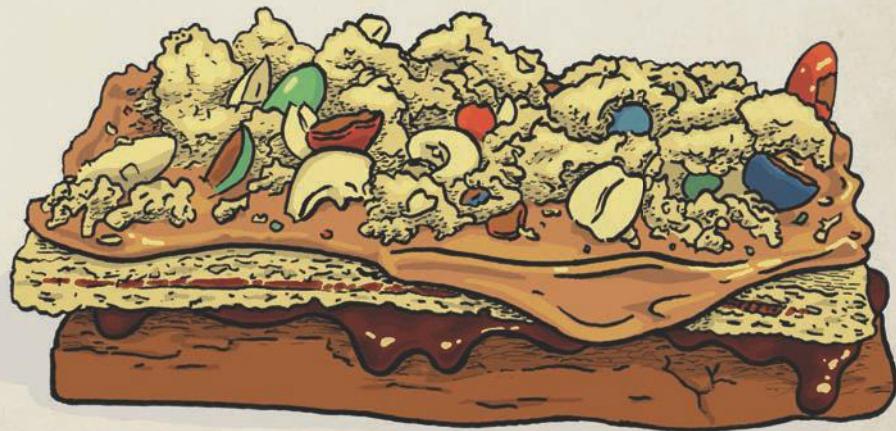
① Use a Flameless Ration Heater to warm the Chocolate Peanut Spread or Peanut Butter for about a minute, to loosen it slightly and make it more spreadable.

② In the meantime, remove the Fudge Brownie from its packaging and lay it, upside down, on a plate or in a bowl. Spread a thick layer of Blackberry Jam over the brownie.

③ Remove the spread from the heater and set aside. Carefully remove the Chocolate Chip Toaster Pastry from its package (it's delicate!) and layer on top of the brownie. Spread a thick layer of the Chocolate Peanut Spread or Peanut Butter onto the pastry.

④ Sprinkle liberally with the crushed M&M's and Kreamsicle Cookie.

⑤ Cut your creation in half and devour.



# Other Types of Field Rations

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When TSHTF and you find yourself in the care of the military, chances are you will see field rations beyond the MRE (which may very well be kept aside for, you know, warfighters who are actually defending you from the walkers). From MREInfo.com, here is a shakedown of the other field rations produced for the US Army and other international military forces that you might come across in an army camp:

## FSR: FIRST STRIKE RATIONS

The First Strike Ration is a stripped down and higher calorie version of the standard MRE, designed for warfighters in highly intense and highly mobile combat operations. They were first developed when it became known that soldiers in intense combat situations would “field strip” their MREs to get a full day’s worth of food into one MRE pouch. A single FSR, which is 24 hours’ worth of food, weighs approximately 50% less than the equivalent 3 MREs. The contents also appear to be 50% less tasty.

## MCW/LRP: MEAL, COLD WEATHER/LONG-RANGE PATROL

These rations were developed for extreme cold environments. Each 1,500-calorie meal includes a freeze-dried entrée that

will not freeze (heh) and can be eaten dry, if necessary, along with other ready-to-eat components like cookies, crackers, energy bars, nuts, etc.

## HDR: HUMANITARIAN DAILY RATIONS

Here’s a ration that hungry mouths in a survivor camp are especially likely to see. HDRs were originally developed for use during humanitarian crises to feed large displaced populations or refugees and have been used extensively in a variety of emergency situations, including Hurricanes Katrina and Rita. They have been designed to be dropped from aircraft and satisfy a wide range of cultural and religious food requirements. Each HDR contains 24 hours’ worth of food (about 2,200 calories) for one individual and contains no animal products or by-products, aside from a small amount of dairy. HDRs do not come with the Flameless Ration Heaters and must either be eaten cold or heated by flame.

## TOTM: TAILORED OPERATIONAL TRAINING MEAL

The Tailored Operational Training Meal is a spin-off of the MRE, a sort of “sack lunch” developed to feed warfighters during inactive duty training. They contain many of the same



components as an MRE, just fewer, to account for a more sedentary lifestyle. Each TOTM contains about 1,000 calories and, like an MRE, a Flameless Ration Heater to heat the entrées.

## KOSHER/HALAL

MRE-type meals developed for soldiers who maintain a strict religious diet, each meal contains kosher/halal-certified entrées and other components.

## AUSTRALIAN DEFENCE FORCE RATIONS

The Australian Defence Force also offers MRE-style meals (read: entrées in retort pouches that can be heated in the field). These standard-issue meals come in sizes to feed 1 soldier (CR1M) or 5 (CR5M). The PR1M is similar to the MCW/LRP meals outlined earlier, designed for cold weather and long-range patrols.

## BRITISH 24-HOUR OPERATIONAL RATION PACK

The General Purpose British 24-Hour Operational Packs also share many similarities with MREs, including retort pouches. They do not, however, contain flameless heaters. Instead, all British soldiers are issued pocket-sized foldable stoves fueled with hexamine tablets so that the food packets can be warmed by submerging them in boiling water. The British also produce Religious, Vegetarian, Patrol, and Hot/Cold Climate varieties.

## IMPS: CANADIAN ARMED FORCES INDIVIDUAL MEAL PACKS

The Canadian version of MREs, IMPs do not include flameless heaters but can be used with the US military-issued heaters or submerged in boiling water. They are, by all other accounts, very similar to MREs: Each IMP contains enough food for one individual meal and includes an entrée, dessert, several types of beverage, hard candy, and a cookie or chocolate bar.

## RCIR: FRENCH RATION DE COMBAT INDIVIDUELLE RECHAUFFABLE

The French RCIR (or “Individual Reheatable Combat Ration”) is a soldier or survivor’s wet-retort-pouch dream. The meals are, not surprisingly, of better quality than any other ration out there and include 2 ready-cooked entrées (beef Bourguignon, anyone?), one appetizer (how about duck paté?), one package of instant soup, cheese spread, 16 salted and sweet crackers, a breakfast kit (tea, coffee, cocoa, milk powder, sugar, etc.), nougat bar, fruit gelée, chocolate bar, chewing gum, caramels, hard candies, water-purifying pills, and a disposable reheating kit (matches, fuel tablets, and a disposable folding stove). The French rations also make use of canned food items like tuna.

## GERMAN EINMANNPACKUNG

The German Einmannpackung (or “Combat Ration, Individual”) is intended to provide an individual soldier with 2 substantial



meals. The entrées and spreads in the EPs are packaged in heavy-duty foil trays, while other food items are vacuum-packed in plastic packages. Also included in each ration: instant fruit juice powder, instant coffee, instant tea, powdered cream, a chocolate bar, sugar, salt, gum, jam, water-purifying tablets, and paper towels.

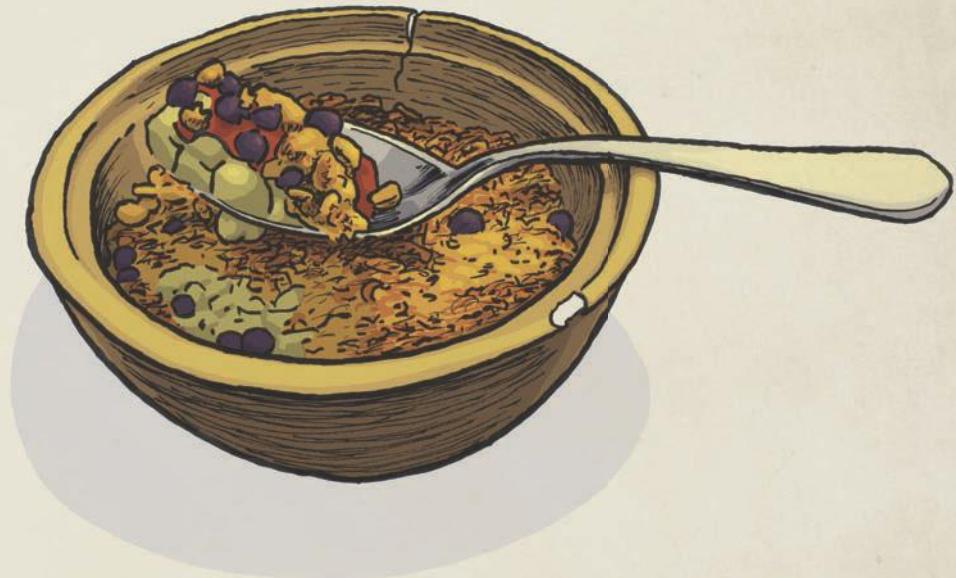
### ITALIAN RAZIONE VIVERI SPECIALE DE COMBATTIMENTO

Like the French, the Italians don't waste their time with subpar rations (though there is an emphasis on pasta-based entrées). Their "Special Combat Food Ration" contains 24 hours' worth of food for one soldier and offers such Italian staples as tortellini, ravioli, and minestrone. They continue to

use canned foods, such as tuna and turkey, despite their bulk and weight. And like their French counterparts, they provide disposable stoves for reheating food.

### IRP-P: RUSSIAN INDIVIDUALNOVO RATSIONA PITANEE-POVSEDYEN

The Russian "24-Hour Individual Food Ration" is quite similar to the French and Italian rations in that they too use canned food items and include a disposable stove and fuel for reheating. There is a heavy emphasis on meat—a 24-hour ration for one soldier might include a can of meat/vegetable medley, a can of straight-up meat, and a can of stewed meat. Other contents would include a powdered beverage, tea, jam, and crackers, among other miscellany.



## SOCIETY AS WE KNOW IT HAS FRUIT CRUMBLLED

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The ingredients for this crumble are not the easiest to come by—the Dehydrated Granola with Milk and Berries is only available in Menu #4, while the stewed fruits are collectively found in only 3 menus. But the combination of these 2 simple ingredients yields a final dessert so reminiscent of pre-zpoc crumble that you could close your eyes and imagine yourself in a warm kitchen rather than in a dismal survivor camp—so

set either ingredient aside until you complete the set.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Dehydrated Granola with Milk and Blueberries: Menu #4
- ★ Apple Pieces in Spiced Sauce: Menu #24  
*or*
- Pears: Menus #13, 19



**YIELDS:**

1 Hungry Survivor or Regular Joe serving

**REQUIRES:**

1 mess kit pot or other small pot

**HEAT SOURCE:**

Indirect, *Ammo Can Oven* or other *Oven Hack* (page 44), or 1 Flameless Ration Heater

**TIME:**

2 minutes prep time

5–10 minutes bake time

**INGREDIENTS:**

2 x MRE-issue Apple Pieces in Spiced Sauce or Pears

2 x MRE-issue Dehydrated Granola with Milk and Blueberries (berries removed if desired)

**METHOD:**

① Set up an *Ammo Can Oven* or other *Oven Hack* for 400°F baking (see *Judging Temperature*, page 47).

② Add the pouched fruit to a mess kit pot or other oven-safe vessel and cover with granola. Bake for 10–15 minutes until the granola has browned and the contents are bubbling. Let the crumble cool slightly before eating.

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**COBBLER VARIATION:** Swap the granola for the Spice Pound Cake, Carrot Pound Cake, or the Maple Muffin tops to make a cobbler instead of a crisp.

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# ZOMBPOCALYPSE PARTY MIX

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Zombie apocalypse, zpoc, ZA, zombpocalypse—it doesn't really matter what you call it, if you're still alive that's reason enough to celebrate. And if you happen to find yourself in a military-protected survivor camp or settlement, being fed regularly with warfighter rations in the form of MREs, well, now, that's just the perfect reason to full-on *party down*. Here's the perfect survivor camp party snack to fuel your festivities. And that crazy twitchy guy down in the D Block? I bet he'd share some of that hooch he supposedly cooks up in exchange for some of this party mix . . .

In order to collect the needed quantities, have all the survivors you intend to invite pitch in and bring a bag or two of ingredients.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Smoked Almonds: Menus #2, 21
- ★ Pretzels: Menus #9, 20
- ★ Cheddar Cheese Pretzels: Menu #15
- ★ Pepperoni Pizza Cheese Crackers: Menu #19
- ★ Baked Snack Crackers Hot and Spicy Cheese (Cheez-Its): Menu #21
- ★ Toasted Corn Kernels: Menu #18

**YIELDS:**

44 snack-size servings



## **REQUIRES:**

1 or several large bowls, for mixing and serving

## **INGREDIENTS:**

16 x MRE-issue Smoked Almonds  
8 x MRE-issue Pretzels  
8 x MRE-issue Cheddar Cheese Pretzels  
8 x MRE-issue Pepperoni Pizza Cheese Crackers  
8 x MRE-issue Baked Snack Crackers Hot and Spicy Cheese  
8 x MRE-issue Toasted Corn Kernels

## **METHOD:**

① Mix all the ingredients together in a large bowl, pot, or some other container, then divide into smaller bowls or serving dishes and set them out around your quarters for easy access and festive face stuffing.

# PATRIOTIC DUNK-A-MROOS

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As a kid it was a rare treat to have Dunk-A-Roos in the house. Dunk-A-Roos are pretty much the definition of an indulgent, sugar-laden snack: a divided plastic package containing cookies and frosting for dipping.

Warfighters use the Strawberry Banana Shake mix to whip up a makeshift

frosting to put on crackers or the Chocolate Banana Muffin Top for birthdays celebrated “in the field.” So when I came across the Patriotic Sugar Cookies, the idea for Dunk-A-MRoos struck me immediately. Both the sugar cookies and shake mix are not widely available but worth the effort to squirrel away as you come across them for later pairing.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Patriotic Sugar Cookies: Menu #23
- ★ Strawberry Banana Shake: Menus #14, 21

## **YIELDS:**

1 Hungry Survivor or Regular Joe serving

## **REQUIRES:**

1 mess kit bowl or other small bowl

## **TIME:**

2 minutes prep time

## **INGREDIENTS:**

1 x MRE-issue Strawberry Banana Shake  
2 tbsp. clean potable water  
1 x MRE-issue Patriotic Sugar Cookies

## **METHOD:**

① In a mess kit bowl or another small bowl/container, mix the shake mix and water to taste, adding the water in increments until you get a thick icing-like consistency.

② Dip the Patriotic Sugar Cookies in liberally, contemplating where you might be without the aid of your armed forces. Enjoy.



# LIVING LIKE A GI FRIED RICE

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OK, so eating MREs while under military protection from hordes of walking dead corpses isn't *exactly* akin to living like a GI, but really, in a way, aren't we all survivor soldiers in the war against the undead?

The Fried Rice side dish available in MRE Menu #22 is quite versatile, and one of the best ways to use it is to bump it up with other items and make a rice salad of sorts. Here I use the Asian Beef Strips also in Menu #22 along with a few other choice tidbits—toasted tortilla strips and corn kernels—to jazz things up, but there are lots of other ways you can use the Fried Rice side dish (see *Beef or Chicken Variation* opposite).

If you don't have access to a fire, use the flameless heaters to warm the rice and beef strips, then toss along with the corn to combine and serve with the tortilla. The preparation does benefit, though, from sautéing the rice and beef strips over an open flame and toasting the tortilla to provide a nice crunch factor.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Asian Beef Strips: Menu #22
- ★ Tortillas: Menus #2, 14, 16, 21, 24
- ★ Toasted Corn Kernels: Menu #18
- ★ Fried Rice: Menu #22

## YIELDS:

1 Hungry Survivor or Regular Joe serving

## REQUIRES:

- 1 mess kit bowl or other small bowl
- 1 small-medium sauté pan
- Spoon or other utensil for stirring

## HEAT SOURCE:

Direct, open flame or other *Stovetop Hack* (page 42)

## TIME:

10 minutes

## INGREDIENTS:

- 1 x MRE-issue Tortillas
- 1 x MRE-issue Fried Rice
- 1 x MRE-issue Asian Beef Strips, roughly chopped
- 1 x MRE-issue Toasted Corn Kernels

## METHOD:

- ① Set up a cooking fire or other *Stovetop Hack*. Tear the Tortillas into strips and dry toast them over medium-low heat until they are browned slightly and start to become crunchy, 1–2 minutes. Set aside.
- ② Add the Fried Rice to a pan. Sauté, stirring constantly until the rice is sufficiently dried out and starting to become sticky. Remove from pan to the mess bowl and set aside.
- ③ Add the chopped Asian Beef Strips to the pan and increase the heat. Sauté until they begin to brown and develop a crust, about 5 minutes. Add to the mess bowl with the rice and let it cool slightly, 1–2 minutes.
- ④ Break the tortilla strips into smaller bite-sized pieces and add to the mess kit



bowl along with the Toasted Corn Kernels. Toss to combine and eat immediately.

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**BEEF OR CHICKEN VARIATION:** *Try swapping the Asian Beef Strips and Toasted Corn Kernels for the Chicken with Tomato and Feta (Menu #5) or Chicken Fajita (Menu #2) and Smoked Almonds (Menus #2, 21).*

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## CHICKEN POTPIE À LA RESCUE CAMP

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The idea of mixing dried nondairy creamer with an MRE chicken, vegetable, and noodle entrée may sound totally disgusting, but it works surprisingly well by survivor fare standards.

This is a recipe that greatly benefits from embers or some other *Oven Hack* for baking, to achieve the “potpie effect”—simply heating the components separately with the flameless heaters and then topping the chicken with a piece of wheat bread just won’t cut it. When baked, the top of the bread gets a little crunchy, while the underside soaks up the liquid from the chicken. Trust me on this one.

The ingredients for this recipe can be found in the following 2012-issue MREs:

- ★ Chicken, Vegetables and Noodles in Sauce: Menu #3
- ★ Wheat Snack Bread: Menus #3, 6, 8, 10, 12, 18, 22

★ Dried Creamer: Menus #1, 3, 4, 5, 6, 8, 10, 12, 17, 18, 19, 20, 22, 23

### YIELDS:

1 Hungry Survivor or Regular Joe serving

### REQUIRES:

1 mess kit bowl or other small pot, with lid  
Spoon or other utensil for stirring

### HEAT SOURCE:

Indirect, embers or other *Oven Hack* (page 44), and 1 Flameless Ration Heater

### TIME:

10 minutes

### INGREDIENTS:

1 x MRE-issue Chicken, Vegetables and Noodles in Sauce  
2 x MRE-issue Dried Creamer  
1 x MRE-issue Wheat Snack Bread

### METHOD:

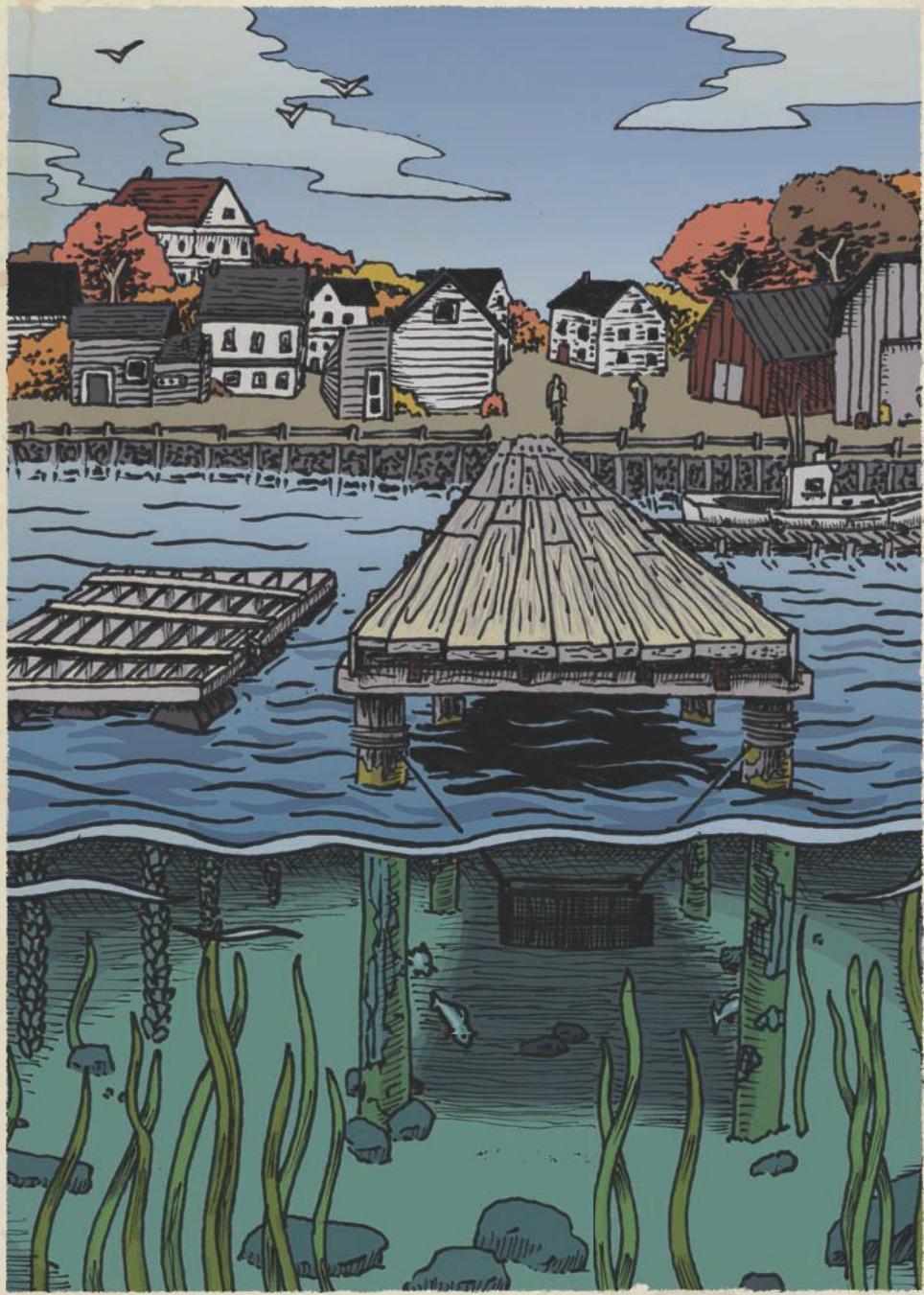
- ❶ Heat the Chicken, Vegetables and Noodles in Sauce in the flameless heater as per package directions, about 5 minutes.
- ❷ Add the warmed chicken mixture to a mess kit or pot along with the dried creamer and mix thoroughly. Lay the Wheat Snack Bread over the mixture then cover with the lid.
- ❸ Put the mess kit bowl/pot onto a thin layer of glowing embers, with a few more glowing embers on top of the lid. Let cook for about 10 minutes, or until the bread is toasted brown. Let cool for about 3–5 minutes before eating.







## THE LONG HAUL



You've bugged in; you've bugged out. You've emptied your former home of every crumb of food, you've gotten by on foraged foods from your local park, and you've eaten bugs. You've grown food in rooftop containers and hunted in the wild. You've scavenged the dregs of society and eaten every last can of Spam there is and ever will be. You've graciously accepted military protection and MREs . . . until the camp was overrun by the undead. And yet they just won't stop.

Maybe those rotters are just more plentiful than you thought, or maybe the outbreak is a *28 Days Later*-type deal where the victims don't actually die (and therefore never decompose). Regardless, the uprising isn't done just yet. There is no sign of humanity's triumphant return on the horizon. But you have one ace left up your sleeve—in talking with fellow survivors at the camp you found out about the perfect place to go and bunker down and try to make a decent go of it. A little slice of apocalyptic paradise where the living is as easy as eeking out an existence in a world filled with zombies can be.

You could make of a sporting go of it in Idaho, where a full-on hunter-gatherer lifestyle is supported by the vast tracks of wild (and, pre-zpoc, protected) land. Or, head to Mississippi and the only Old Order Amish community in all of the Deep South to get by with some good old-fashioned farming and favorable growing conditions. There are lots of options, so refer to the Criteria for Your Long-Haul Bug-Out Location set out on [page 306](#) as a jumping off point for crafting your very own long-haul plan.

My top pick, however, would be a life aquatic in Maine. This section offers a complete plan for a long-haul bug-out location (BOL) in Damariscotta, where you can enjoy a quiet estuary while raising shellfish (surprisingly uncomplicated!) and harvesting seaweed superfoods—even throughout the winter, when surviving off the land will be its hardest.

Good luck!

# Criteria for Your Long-Haul Bug-Out Location

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Almost as hotly debated as whether to bug in or bug out in the first place is where a survivor should bug out to if/when sh/e decides to get the hell out of Dodge. When preppers talk about a bug-out location (BOL), they are talking about planning ahead and having a definitive plan: a route, a destination, in many cases a pre-purchased and well-stocked piece of land or cottage/cabin/bunker, and of course contingencies for every possible situation.

But this section, like much of the rest of the book, will be most useful for those of us who didn't plan ahead—and a BOL for us will mean a place where we can rest our weary calcium-depleted bones and start to rebuild some sense of long-term normalcy after we have holed up, foraged, hunted, scavenged, and army-camped our way across the wasteland.

Regardless of where you choose to set up shop, according to Joel M. and Andrew Skousen, authors of *Strategic Relocation*, any good BOL should meet these basic criteria.

## NATURAL RESOURCES

Priority number one is a close and clean water source, and really there should be more than one within a mile of your base. If you can also situate yourself within

about a day's hike of salt water, then you can produce your own salt for cooking and preserving. You will also need to be close to woodlands and/or other green spaces for firewood, forageables, and wildlife.

## FERTILE LAND

If you can find an area that has both farm and woodland, you can diversify your food sources by hunting/gathering *and* growing your own food.

## RELATIVE SECLUSION

Raiders, zeds, roaming survivors, and the toxic decay of urban/suburban human infrastructure demand that your BOL be well away from former population centers. If possible your BOL should be out of plain sight or under heavy cover to avoid unwanted attention. But it should also be within reasonable distance from some form of human center—a town or small municipality at the very least—for supply runs and scavenging missions.

## DEFENSIBILITY

The ability to properly protect your location from intruders of both the undead and living variety—a piece of land that can be closed in with fencing or other means of protection—is important, as is the ability to effectively guard the area's perimeter.



## ACCESSIBILITY

The counterpoint to seclusion and defensibility is accessibility. Because you will have to make scavenging trips while “digging in” at your new bug-out location for equipment, tools, and other supplies to set up for long-term living, you will need a place that you can come and go from with relative ease. You should be able to access your BOL by foot or paddle boat; even if you still have a vehicle and gasoline stores, you should not count on it for long-term transportation.

## MINIMAL ENVIRONMENTAL RISKS

There are pros and cons for any BOL. A place that offers perfect seclusion and all the black walnut and moose you could ever want to eat might also be mountain terrain that is susceptible to avalanche. Depending on what you deem to be essential features for your BOL, there may be certain environmental risks involved, from avalanche to earthquake to tornado to flooding to hurricane. When possible, try to minimize these risks, or at the very least be aware of them so you can be prepared.

# Long-Haul Aquatic Farming in Maine

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As the old saying goes, a smooth sea never made a skillful sailor. By this point of the zpoc, you will have survived a full-on magnitude 9 zombie tsunami, so why not dial it back a bit and set up your BOL with a low-impact sustainable sea farm in Damariscotta, Maine? Assuming you can find a clean little patch of estuary (an enclosed coastal body containing a mix of salt and fresh water), you can “garden” shellfish like oysters and mussels with limited equipment, setup, or ongoing effort.

And, while environmental concerns might take a back seat to, you know, general ones focusing on not having your aorta ripped out, growing bivalve species like oysters and mussels will help create healthier ecosystems that actually restore

the quality of water and increase the sea life and species in the area. Bivalves filter out carbon, nitrogen, and even heavy metals and other pollutants (in some areas, they are grown specifically for this purpose and not human consumption).

Under-dock shellfish gardening requires zero in the way of inputs—these crops feed themselves, requiring no land space (bonus for being inconspicuous), fertilizer, or (additional) water. While you will need to set yourself up with some minimal equipment (which is why I recommend an established seafood-producing region), once you’re up and running, your shellfish garden will require little additional infrastructure unless you want to expand (see *Under-Dock Shellfish Gardening*, page 309).



## DAMARISCOTTA STATS

- // **Population & Density** (2010): 2, 218; 177 per square mile, or 69 per square kilometer (compare NYC population density: 27,000 per square mile)
- // **Population Centers**: Newcastle (1 mile west, population 1,752), Rockland (26 miles east, population 7,800), Portland (53 miles southwest, population 67,000)
- // **Natural Resources**: Aside from the food you will grow through seafarming, there is ample fishing opportunity in Lake Damariscotta—trout (brook, Lake, and brown), pickerel, catfish, eel, bass (large- and smallmouth), smelt, and perch to name a few. There is a parcel of 68 acres of protected farmland in the town of Damariscotta, and several other protected farms further northwest in Lincoln County. Muddy Pond is a large freshwater source 2 miles southeast from the town center. There are several state parks and wildlife preserves located nearby—Dodge Point Preserve (5 miles), Fort Edgecomb State Park

(8 miles), Kitzi-Colby Preserve (9 miles), and a little farther out the larger tracts in Ovens Mouth Preserve (16 miles) and Camden Hills State Park (30 miles)—which can offer excellent supplementary or backup hunting and foraging options with deer, moose, upland game birds, and water fowl in good supply. The Great Salt Bay, where Damariscotta River ends, is the foremost mating ground for horseshoe crabs in North America.

- // **Seclusion**: Less than ideal—pre-zpoc Damariscotta is a popular tourist resort area. Located off one of Maine’s countless estuaries, it is connected to neighboring town Newcastle (population 1,752) via the Main Street Bridge.
- // **Defensibility**: Average
- // **Accessibility**: Excellent
- // **Climate & Environmental Risks**: Cold and snowy winters (January, average minimum 8°F), plentiful insects in the summer (July, average maximum 78°F), hurricanes



Another culinary mainstay in the long-haul life aquatic will most certainly be kelp. It is jam-packed with nutrition—probably one of the most healthful things you can shove in your face while fending off the undead. As an added bonus, kelp, like bivalves, have a very positive impact on their environment. Kelp acts as a supremely awesome carbon sink, relieving stress on the ocean while absorbing more than 5 times

the amount of carbon than any land-based plant (see *Foraging Kelp at the End of the World*, page 315).

Maine isn’t without its dangers. Coastal regions are prone to hurricanes. And if zombies can, in fact, “swim” (see *Zombie vs. Shark!*, page 325), then being close to an ocean might risk a tide of skin eaters coming in. But assuming those rotters are mostly constrained to land, the downsides



of living by the sea are outweighed by the benefits of living off it.

Maine does get some pretty harsh winters (popping off some zombie Popsicle heads, anyone?), but it also offers one huge salty refrigerator (the drink!) for several months during the year. You should also be ready for some muggy, buggy summers. But Maine's blend of coast and backwoods provides a diverse supply of natural resources—it is the most heavily forested state in the United States. In addition to sea farming, a survivor can hunt, trap, fish, and forage. Moose, deer, upland game birds, and water fowl are just a few of the species you will find in the several parks and nature reserves well situated along the coast, or you can retreat to the interior for even better access to forest and freshwater if needed, heading upstate to the Mount Katahdin region.

The Damariscotta River estuary is an ideal place to set up your BOL. Its protected

brackish water is essential for bivalves, and in fact the area is well known pre-zpoc as Maine's best oyster-producing region. However, if you happen to find the waters of Damariscotta overrun with poor undead seafood-loving tourists, you can grab some supplies and try one of the other oyster-producing locales close by—Glidden Point, Pemaquid, Dodge Cove, and Hog Island to name but a few. Maine is home to innumerable finger estuaries with the calm brackish waters bivalves enjoy. There is also an abundance of other sea critters you might find and can take opportunistically, including crab, squid, clams, lobsters, periwinkles and whelks, sea urchin, shrimp, and a whole host of finfish.

And so, while all the hell of this undead sea storm might leave you feeling some apprehension for James Joyce's "snot green" and "scrotumtightening sea," a life on the water might just be the way to go for the Long Haul.

## Under-Dock Shellfish Gardening

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Under-dock shellfish gardening is exactly what you would think—growing seafood under a dock. The hungry bivalve-loving survivor should be quite excited to learn that raising your own oysters and mussels can be done quite easily throughout the Long Haul—assuming the waters aren't teeming with the undead, of course.

Under-dock shellfish gardening is supported by a robust community of

small-scale growers, hobbyists, and institutions on both sides of the continent all the way up and down the coasts. In North Carolina, for example, there is a thriving community of shellfish gardeners, the aptly named Shellfish Gardeners of North Carolina. They are a group of private citizens who seek to promote and expand the cultivation of shellfish, both for their wonderful environmentally restorative capabilities and



because they are, umm, delicious. And they do it right under their very own docks with minimal equipment and effort.

The few items you will need to do the same can be scavenged from pre-zpoc commercial operations or easily made using found materials. Those, along with the few nuggets of knowledge lovingly tucked into this section, will have you slurping mollusk goodness before you can say “post-apocalyptic under-dock bivalve growing”!

## BIVALVES 101

Bivalves are a class of invertebrate marine mollusk that are enclosed by a hinged shell (“valve”) of 2 parts (“bi”). They live and thrive in estuaries—partly enclosed bodies of water off the coast. Estuaries are characterized by brackish water, that is, a mix of fresh and salt waters in which the salinity is higher than freshwater but lower than seawater.

Bivalves like oysters, clams, mussels, and scallops are “filter feeders,” meaning they feed themselves by filtering water through their gills and capturing particulates (1/10,000 of an inch big!) such as phytoplankton. This makes them an excellent food source for the zpoc—you don’t need to grow, source, or provide food for them.

These bivalves are also “broadcast spawners” meaning that, when the water temperature or day length is to their liking (anywhere from late spring to early fall), they will release eggs and sperm into the water column, leaving nature and chance to do its work of fertilization. The fertilized eggs become tiny little free-swimming

self-feeders, zipping around in the water for a few weeks until they settle down to undergo a metamorphosis into young known as “spat”—juvenile versions of the adults they will become over months (or years, depending on the species).

Some bivalves, like clams, will bury themselves in the seabed or other sediment to keep safe from predators. Others, like oysters, mussels, and scallops, will attach themselves to a hard surface or “substrate” (like the pilings of a dock or rocks) and hang out filtering water and enjoying the local phytoplankton until you are ready to eat them.

## GETTING SET UP

The most important element in setting up your under-dock shellfish garden is the quality of water—even beyond its salinity. Bivalves are like little sponges for toxins, pollutants, bacteria, and viruses. This means if the waters are zombie infested or seem otherwise polluted due to the neglect of municipal or private water-treatment systems or poisonous algae, paddle on to cleaner waters. The good thing about Maine is that it has a large system of estuaries to choose from.

While a large variety of bivalves can be found in and around the waters of Maine, this guide focuses on oysters and mussels, which can be easily grown under docks. The species you will find in Damariscotta include the well-known native Blue Mussel (*Mytilus edulis*), the American or Eastern Oyster (*Crassostrea virginica*), and



to a lesser extent the European Oyster (*Ostrea edulis*).

## Location

Ideally, select a spot that has several residential or commercial docks available. One good way to go about growing is having a single species under a single dock—i.e., all your oysters under one dock, all your mussels under another—so that during spawning you don't get oyster and mussel spat settling down on top of the other species.

## Scavenging Equipment

To raise oysters and mussels, you will need little in the way of equipment. The oysters can be grown in cages or mesh “grow-out bags” that can be scavenged from pre-zpoc farming operations. The cages are then suspended from the underside of docks (see *Installing Equipment* below). When scavenging for cages, consider the size and manpower available to haul the cages up and out of the water for maintenance and harvesting—a number of small cages that can be handled by 1 or 2 people is probably the smartest way to go. For example, according to Terry Nosh of the Washington Sea Grant Program, a cage that measures 1½ feet long by 1½ feet wide by 8¾ inches tall will hold about 250 adult oysters and can be handled by 2 people.

A mussel raft is a simple flotation device with several lengths of rope affixed to the underside. Mussels attach themselves to these ropes as spat and mature there in large clusters. Rafts can be built from large pieces of wood or other materials rigged up with

buoyant materials or floats. You can scavenge existing floats or construct floats with some PVC pipes joined together with elbows. From the bottom of the raft, suspend several lengths of rope (Manila or nylon), on which the mussels will grow. Les Stanwood of Mother Earth News ([motherearthnews.com](http://motherearthnews.com)) says that on average each foot of rope will yield about 5 pounds of mussels. Since both Manila and nylon ropes are very durable and resistant to saltwater damage, you will likely find them lying around docks and commercial operations, or on boats—just inspect them to make sure there aren't any blood stains or bits of body parts stuck to or seeped into them! To prevent the heavy clusters of mature mussels from sliding off the rope, attach a small wooden platform (about 4 inches long by 4 inches wide) every couple of feet. These rafts can be anchored in open water, though suspending them from the underside of a dock is a more stealthy approach.

## Installing Equipment

When attaching your oyster cages or grow-out bags to the dock(s), the easiest approach is to hang them from the underside. Give the rope attached to the bags/cages enough length so that the cages remain about 1 foot under the water at the lowest tide. During the winter you might want to lower them even further to account for the variation in low tide water levels due to storms. Oysters can survive freezing under water—they will revive—but will die if they freeze while exposed to air.



A more effective approach for keeping your oysters safely submerged is to rig your cages or bags up with floats so that they can rise and fall with the tide. In either case, you will need to make sure the containers aren't able to bang up against the pilings of the dock—this will cause the oysters to close up and stop feeding. Same goes for attaching the floating mussel rafts to your dock—be sure to provide enough rope length so that they can rise and fall with the water, but not so much that they can bang up against pilings. Additionally, in cold winter months floats made from PVC and other materials can crack if they crash up against the pilings.

## *Collecting Spat*

Both oysters and mussels spawn in warm weather, and while there is generally one large spawning event in late spring/early summer, there can be spawning events throughout the season. Both bivalves can reach sexual maturity and begin spawning within their first year. Young oysters generally start out as male, but will often change sex and become female (or switch back and forth) as they mature—meaning it's important to have a breeding stock of mixed ages for oysters.

To collect oyster spat, cover a tomato cage with a fine mesh, spreading a thin layer of empty shells to give the spat a surface to attach to. The spat are so small they are virtually undetectable to the human eye, so the fine mesh will allow them into the cage while keeping predators out. When

the spring weather turns warm (mid-May) place these cages in and around cages of adults you might have scavenged from pre-zpoc operations, or find an existing natural population.

To collect mussel spat, suspend free-floating horizontal lengths of rope (as opposed to the vertical lengths suspended from the rafts for older mussels) between dock pilings, sticks, or other posts in the top 2–3 meters of water, where these microscopic little free-swimmers will do most of their feeding. Again place your ropes in and around existing mussels rafts or natural populations mid-May.

In either case, you won't know the full extent of your success until late July when the spat have grown large enough for you to see. You can then transfer the oyster spat to the oyster cages to grow out and cut down the mussel ropes into smaller lengths for attaching to the rafts, suspending them vertically.

## **CARE & MAINTENANCE**

Because bivalves feed themselves, there is little in the way of day-to-day maintenance. However, your mollusks will be prone to fouling—that is, predators, algae, or kelp attaching to the shellfish themselves or the cages/ropes. Periodically you should pull up the cages and ropes and inspect them, removing anything that might have accumulated on the equipment or on the shellfish—this practice is very important for fending off predators and keeping a good clear water flow in your farm. While cleaning, you can also thin out cages if they are overcrowded.



## BIVALVE PREDATORS

- // Barnacles
- // Crabs
- // Fish (snails)
- // Flatworms
- // Gulls
- // Moon sails (clam)
- // Mud worms
- // Oyster drills
- // Sea squirts
- // Sea stars
- // Sponges



Salt baths are another good way to keep predators and disease at bay among your oysters. Using a 1:3 ratio of salt to water (see *Making Your Own Sea Salt*, page 325, if you need salt), dissolve the salt completely then soak the oyster cages for about 20 minutes or so. Remove them and let them dry out for 20 minutes to about an hour at most (and only if the weather is not overly hot, sunny, or dry) before re-attaching them to the dock. Winter, when many predators are still young and vulnerable and can be killed off by a salt bath, is a good time to do this task.

## HARVESTING

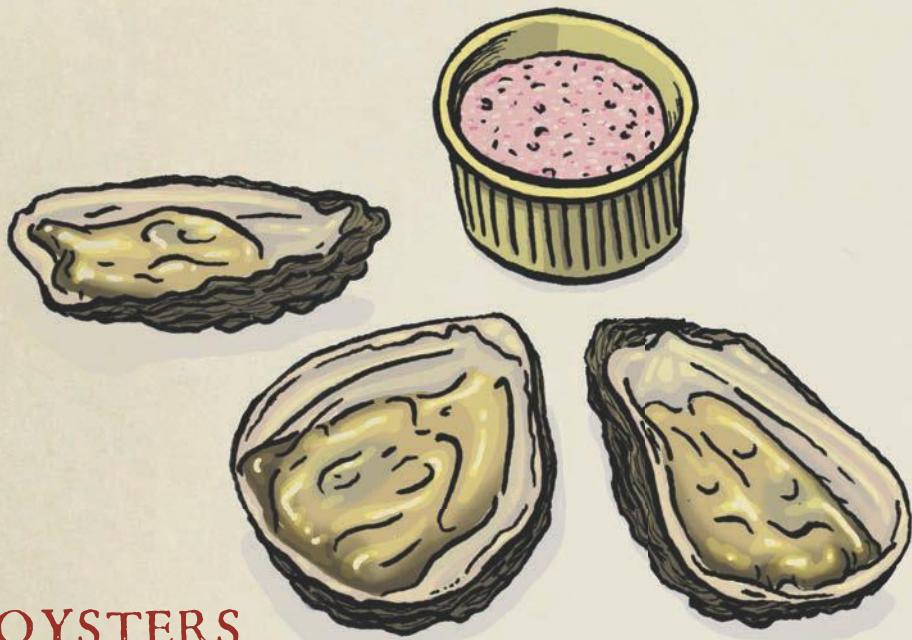
Oyster and mussel growth rates depend on temperature (they grow very little in extreme cold), the salinity of the water, and the

availability of food—factors over which you have very little control. Maine oysters are known to be slow growing, most taking 2–3 years to reach a good eating size of 3 inches though they can grow up to 8 inches and live 5–10 years—which is good to know for setting aside breeding stock (see below).

During spawning season oysters and mussels tend to be less yummy—their energy is diverted to spawning and their flesh becomes watery and thin—though both can still be eaten during this time. Another thing to consider about summer harvesting is the increased possibility for sudden algal blooms, spikes in bacteria and viruses in the water, or even a heavy rainfall—things that make the bivalves inedible for a time. Pre-zpoc government agencies alert farmers and hobbyists of these conditions, but on your own you will have to learn through (what will likely be an intestinally uncomfortable process of) trial and error. Or you can switch to a more land-based diet by hunting and foraging in the nearby coastal wildlife reserves and parks during the summer, leaving the bivalves to be a source of protein for winter.

You will want to leave behind the choicest adults for breeding. Take note of specimens that are thriving—those that grow large quickly and look healthiest. These should go back into the gene pool!





## OYSTERS À LA ZPOC

Boppin' zeds. Eatin' oysters. Livin' the post-zpoc high life. The success of this recipe really depends on the quality of your bivalves because it is essentially a shuck-and-stuff type deal with a simple mignonette-esque sauce to go with.

Nom.

### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings

### REQUIRES:

Chef's or survival knife and cutting board  
Small mixing bowl  
Mixing spoon

### TIME:

5 minutes prep

### INGREDIENTS:

1 small shallot, red onion, or wild onion,  
finely minced  
 $\frac{1}{2}$  c. apple cider vinegar  
1 tbsp. finely minced chives  
Touch of honey  
Fresh ground black pepper, to taste (if available)  
24 oysters, shucked (see *Shucking Oysters*  
opposite)

### METHOD:

- ① Mix all ingredients (except oysters) until honey has dissolved and they are well combined. Drizzle over freshly shucked oysters.



## SHUCKING OYSTERS

After harvesting oysters, you might want to give them 10–15 minute soak in a saltwater solution (1 gal. water plus 1 c. salt) to allow them to filter out sand and other debris.

To shuck, have a clean towel or other piece of fabric at the ready. Place the deeper cup-shaped side of the oyster down on a table or other solid surface and cover the oyster's front half with the towel to protect your hand. Slip the shucking knife into the visible hinge at the back end and gently twist up and down to pop the shell open. Clean your knife off on the towel (it will have shell fragments on it), then run the knife

along the length of the lip of the shell to completely open the oyster. Remove the top shell. Use the knife again to free the oyster from its bottom shell.

While you will, in all likelihood, be able to scavenge an oyster shucking knife in Maine, if you can't, follow the same procedure as above, swapping out the oyster shucker for a flathead screwdriver to pop the shell. Then, using a paring knife, run the blade along the lip of the shells to completely open the shell. Use the screwdriver again to pop the opposite side of the hinge, if needed, and the paring knife to free the oyster from the bottom shell.



## Foraging Kelp at the End of the World

Kelp. Or, as most folks would more generally identify it, seaweed. Pre-zpoc, many regard “seaweed” as an exotic ingredient most often enjoyed in Asian cuisine, but there are several edible varieties of kelp and other seaweeds that are totally native to North American waters.

Kelp is an underrated and amazing part of the ocean’s ecosystem. It’s often called “the rainforest of the ocean” for its ability to pull carbon from our overtaxed waters—5 times more than any land-based plant (including

trees). According to kelp farmer Brendan Smith of the Thimble Island Oyster Company in Long Island Sound, Connecticut, the common sugar kelp (*Saccharina latissima*) provides you with more iron than red meat, more calcium than milk, more fiber than brown rice, and more protein than soy beans! It will also give depleted long-haul survivors magnesium, potassium, B vitamins, vitamin C, iodine, zinc, and omega-3.

Kelp is an excellent crop for those cold, lean months of winter, providing a serious



nutritional power punch when other land-based forageables are not available. Because it is such a reliable winter crop, pre-zpoc there is a movement in Maine and other fishing towns to supplement shellfish farming with kelp farming—so you should be able to find some good commercial stands, particularly of sugar kelp. Commercial producers tend to grow on submerged ropes (or “long lines”), so look for those. These plants are attached to the ropes by grafting on spores that are spawned in labs; unfortunately, this method cannot be replicated during the zpoc, but there might be a nice crop to harvest from pre-zpoc commercial efforts before you have to hunt down your own.

Kelp isn’t the only edible seaweed you’re likely to find in Maine. You should also be able to hunt down sea lettuce (*Ulva* sp.), graceful red weed (*Gracilaria vermiculophylla* and *Gracilaria tikvahiae*), dulse (*Palmaria palmata*), and bladder wrack (*Fucus* sp.). Use the images here to help identify them, or apply the *Universal Edibility Test* [page 24] for any species you can’t definitively identify.

## FINDING & HARVESTING SEAWEED

When hunting down natural stands of seaweed, you should know that the wave energy and available substrate (surfaces) for growth will determine what seaweeds will grow where, and so you will need to get to know where the local species like to grow. In general, however, look for rocks—they’re what seaweeds attach to. They do not grow

roots, and therefore you will not find them in the seabed.

To harvest, bring a serrated knife or a pair of scissors and a bag or other container to carry the foraged seaweed and head out at low tide. A good practice is to wrap your harvesting knife in an old piece of wetsuit—it will make it easy to handle when wet and it should also give it some buoyancy. Cut off the tops of the longest fronds, leaving the lower part of the plant intact to re-grow and spawn. Be careful of overharvesting—don’t harvest from all the plants in one area and do not remove entire plants from the rock bases. Stay away from dead kelp that you find washed up on the beach, and rinse everything gently before eating.

## EATING SEAWEED

Different seaweeds require vastly different approaches—some can be eaten raw, while others require long cooking to make the texture palatable. Below is a breakdown for the most common of Maine’s seaweed:

**BLADDER WRACK (FUCUS SP.):** Should be blanched before eating or can be added into cooked dishes in the last few minutes of cooking.

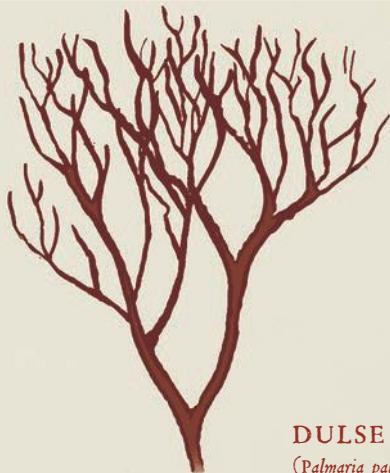
**DULSE (PALMARIA PALMATA):** Most palatable when dried (excellent smoked!), with a great crunchy texture and slight spicy kick. Slightly rubbery texture when raw and cooked, but crisps up nicely when panfried. Can be treated much like cabbage and makes a good addition to soups and seafood chowders.

**GRACEFUL RED WEED (GRACILARIA VERMICULOPHYLLA AND GRACILARIA TIKVAHIAE):** Can be eaten raw.



## GRACEFUL RED WEED

(*Gracilaria vermiculophylla* AND  
*Gracilaria tikvahiae*)



## DULSE

(*Palmaria palmata*)



## OARWEED

(*Laminaria digitata*)



## BLADDER WRACK

(*Fucus sp.*)



## WINGED KELP

(*Alaria esculenta*)



## SEA LETTUCE

(*Ulva sp.*)



It has great thickening qualities when cooked in soups and sauces.

**DARWEED (LAMINARIA DIGITATA):** Another variety of kelp best when cooked in soups. Can be used much like Japanese kombu to make dashi.

**SEA LETTUCE (ULVA SP.):** Good raw in salads or dried and crushed and added to bread, dressings, or omelettes.

**SUGAR KELP (SACCHARINA LATISSIMA):** Good raw in salads or simmered. Can also be used like kombu in soups and stews.

**WINGED KELP (ALARIA ESCULENTA):** Should be gently simmered for 20–40 minutes to make it tender and can be used in the same ways as Japanese wakame in soups and with grains.

## DRYING SEAWEED

You can use the sun to dry your seaweed, laying it out flat on scavenged (and cleaned) window screens, pressed between clean pieces of newspaper (if you can find any left), or even just laid out on clean rocks

away from the water. If you have access to a brick or *Mud Oven* (page 320) or other heat source, you can dry seaweed at very low temperatures, around 100°F–150°F.

## MAKING SEAWEED FERTILIZER

If you are doing any land-based gardening at your seaside BOL, seaweed is also an amazing soil amendment and fertilizer. You can add raw seaweed to your compost pile or cover harvested seaweed in a bucket with water ( $\frac{1}{2}$  kelp,  $\frac{1}{2}$  water), stirring occasionally until it is almost completely dissolved and no longer smells of ammonia, which should take several months. To use on crops, dilute to a 1:3 ratio of seaweed fertilizer to water.

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**RECOMMENDED READING:** *For more on aquatic foraging, check out the Edible Seashore: River Cottage Handbook No. 5 by John Wright and Underwater Foraging: Freediving for Food by Ian Donald.*

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## ICHIBAN DASHI 2.0

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Before the remaining culinary cognoscenti and Japanese cuisine purists get their tattered undies in a knot—it's true, real Japanese dashi requires kombu, a species of edible kelp primarily cultivated in Japan and Korea (at least before the dead rose). But seeing as how the sea gardening survivor will have access to so much native oarweed (see *Foraging Kelp at the End of the World*, page 315) in Maine, it really would be a shame not to put that most

excellent kombu substitute to work in this zpoc adaptation.

Making a traditional dashi also requires finely shaved katsuobushi (dried and fermented skipjack tuna), another uniquely Japanese ingredient with roots dating back to the late 17th century. As a close relative to skipjack, young bonito is a common substitute in commercially produced katsuobushi pre-zpoc and why this ingredient is commonly known in



North America as “bonito flakes.” The Atlantic bonito (*Sarda sarda*), which can be found in Maine waters, is a perfectly good substitute. With some tweaks to the traditional Japanese production methods (see *Long-Haul Katsuobushi*, opposite), this ichiban dashi will not only pay homage to the culinary traditions from whence it came, but also offer up an excellent base for soups and sauces.

#### **YIELDS:**

2 Hungry Survivor servings, 4 Regular  
Joe servings

#### **REQUIRES:**

Chef’s or survival knife and cutting board  
Stock pot  
Mixing spoon

#### **HEAT SOURCE:**

Direct, open flame or other *Stovetop Hack*  
(page 42)

#### **TIME:**

5 minutes prep  
8 hours inactive soaking time  
10 minutes cooking time

#### **INGREDIENTS:**

8 c. potable water  
2 long strips foraged oarweed  
1 c. finely shaved Long-Haul Katsuobushi  
(opposite)

#### **METHOD:**

- ① Add the water and oarweed to a pot and let sit 8 hours or overnight.
- ② Start a cooking fire or set up another *Stovetop Hack*. Heat the pot over medium-high heat until it nearly reaches a boil. Remove from heat and add the Katsuobushi. Let sit for about 10 minutes.
- ③ Strain and use as stock for soups and sauces.

# Long-Haul Mud Oven

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While you have been likely making good use of the quick and easy *Oven Hacks* offered up in *Apocalyptic Cooking Methods* (page 41), when you settle down for the Long Haul in Maine or elsewhere you might want to construct a more substantial and functional oven.

The easiest and yet still totally functional route is a mud oven—that is, building an oven out of good old dirt. Much like zeds, mud

ovens go by a myriad of aliases—clay oven, adobe oven, beehive oven, Quebec oven, Roman oven, and el horno—depending on geography and subtle differences in their construction. But they all operate on the same ancient and reliable fact: Earth is an amazing insulator. The coolest thing about this particular design of mud oven is that cooking takes place in the absence of a live heat source. To cook, you burn a



## LONG-HAUL KATSUOBUSHI

Katsuobushi is a dried and fermented fish product and key ingredient in traditional Japanese dashi. It can be made using several different techniques and processes, though at its most basic the traditional process involves filleting the bonito, simmering and then smoke-drying the fillets, and finally finishing the process with further drying via fungal fermentation.

The craftsmanship, tradition, and technique that go into making katsuobushi pre-zpoc cannot easily be replicated, but sea gardening survivors in Maine can make a decent substitute. In place of the traditionally used skipjack tuna, you can use Atlantic bonito. It is found in its greatest concentrations in and around New York, but can be fished in the western Gulf of Maine and as far north as Cape Ann and Casco Bay. Bonito have dark

stripes on their backs and a long first dorsal fin. They prey on small fish, which would make excellent bait.

Fillet the fish (see *Basic Field Dressing & Butchery*, page 37, for more), leaving the bones and skin intact for the time being, then simmer the fillets gently for about 2 hours. Simmering coagulates the protein and aids in the retention of inosinic acid (important for developing umami) during the smoking process. After the fillets have been simmered and cooled, remove the large bones and skin.

Next, smoke-dry the fillets by alternating between 6 hours of smoking (oak wood works well) and 24 hours of resting. This process is repeated 12–15 times until the fillets become rock hard and completely dried. To use in making dashi or as a general-purpose seasoning, shave the fillets paper thin.



fire down to embers then remove it. The oven's temperature can get up to a cozy 500°F, and, with solid construction, can retain heat for up to 24 hours. Mud ovens require little in the way of supplies and can be constructed completely au naturel if needed, though a couple of scavenged items can aid in construction and improve the final product.

Below is guidance on building a simple mud oven—a technology that has been

with us for tens of thousands of years. It is adapted from the wisdom of Kiko Denzer, mud oven guru and author of *Build Your Own Earth Oven: A Low-Cost Wood-Fired Mud Oven, Sourdough Bread, Perfect Loaves*.

The primary ingredient in this mud oven “recipe” is soil that has a high clay content. Clay is present in varying quantities in almost all soil, though you will have to dig well beneath the topsoil (at least 2–3 feet) to uncover it. You may need to try digging



in several different areas to find soil with a high clay content, but it can typically be found near lakes, ponds, and seashores. The soil will feel slightly slippery and greasy and can be easily rolled into a pliable rope when moistened with some water.

## BUILDING A MUD OVEN

### WHAT YOU WILL NEED:

- ★ Earth (see [page 321](#) regarding clay content)
- ★ Plastic tarp
- ★ Water
- ★ Sand
- ★ Bricks (scavenged or made, see *DIY Bricks*, opposite)
- ★ Straw or wood chips
- ★ Buckets
- ★ Measuring tape
- ★ Kitchen utensils for sculpting
- ★ Milled lumber  
(optional, but recommended)

The size of oven you construct is variable and what size you choose to build should depend on how much you think you will be using it and what for purposes. Any size oven can be built using the guidelines here for determining height, width, and door size. I would recommend constructing several medium-sized ovens (50–60 inches wide) for maximum functionality and practicality.

### 1. Construct the Base

While your mud oven's base can be made from any fire-safe surface (like a cement

cinder block, for example), I recommend building a base using mud and brick to provide additional insulation and residual heat (as pictured on [page 324](#)). The shape of the base doesn't really matter—it could be rectangular, square, or circular—just be sure to make it bigger than the desired width of your finished oven.

First, mix a workable mud. Lay the earth out on a plastic tarp to make mixing and transporting easier. To the earth add sand—a 1:1 or 1:2 ratio of subsoil to sand will help prevent cracking and shrinking. Mix the two together until you have a homogeneous mixture, then sprinkle the mixture with water gradually, working the water in until totally incorporated after each addition. When the mud starts to come together like a dough, pack a hard ball (you'll need 50–100 pats) and drop it from chest height. If it holds together, it has adequate moisture content. If it cracks it's still too dry. If it slops it's too wet. Adjust by adding more water or earth as necessary. While working, cover the mixture to keep it from drying out.

Next, mix a mud "mortar." Add some of the workable mud to a 5-gallon bucket, filling about halfway to start (you can always make more if needed!). To this, slowly add water until the mud is wet enough to act as an adhesive but not so wet that it will not support the weight of the bricks—experiment with a couple of bricks until you get the proper consistency.

Then construct an exterior wall for the base by laying the bricks in the shape you desire



(circle, rectangle, or square) and using the mud mortar to hold the structure together. Try to make this structure as level as possible!

When the outer walls of the base have dried, tightly pack the enclosure with the workable mud mixture and level off the top for a smooth surface on which to construct the oven.

## 2. Make a Mold

Atop the base, pack and shape a damp mound of sand into a beehive-shaped dome—this will serve as the mold for you to build the oven on. The height of the dome should be a few inches higher than half its width. So for example, a dome 27 inches wide should be about 16–18 inches tall. To get an accurate measurement of the

height, hold a stick across the top of the dome then measure the height from the stick to the dome's absolute bottom. Additionally, be sure to leave at least 10 inches around the mold for you to pack mud atop it for the oven's thick walls.

Next, calculate the dimensions for the doorway. The optimal height of the doorway is obtained by multiplying the dome's height by 0.63. The optimal width is  $\frac{1}{3}$  the width of the dome. Mark these numbers down or commit to memory for later reference.

## 3. Build the Oven

Cover the mold with a single layer of wet (clean) paper, smoothing it out to be completely flat—this will prevent mud from sticking to the form and will be burned away during the oven's first use. Next, cover the dome with a 3- to 4-inch-thick layer of mud, making it as even as possible. Using a flat board, pack the mud against the form until it is solidly packed down.

Once done, the oven will need to dry out completely before continuing. Depending on climate, this could take anywhere from days to weeks, so you'll want to build a roof or other protective structure to keep it reasonably dry and protected from the elements in the meantime.

Once the oven is dry, add an additional layer of 3–4 inches of mud, this time mixed with wood chips, straw, or grass to give it a little more structural integrity and durability. Allow for the structure to completely dry again before continuing.

### DIY BRICKS

If you aren't able to scavenge bricks, you can make them using the same workable mud used to construct the base and oven. To do this, fashion a mold using scavenged lumber or another material in whatever proportions you would like, though the standard proportions for modular bricks are 7 $\frac{1}{2}$  inches long by 3 $\frac{1}{2}$  inches wide by 2 $\frac{1}{4}$  inches high. Fill the molds with the workable mud and allow to dry out completely before removing the finished bricks; depending on climate, this could take several days or longer.





#### 4. Cut Out the Doorway

Use the doorway height and width you calculated in step 2 (0.63 times the height of your original beehive form and  $\frac{1}{3}$  the width) to scratch the dimensions of the door into the mud. Cut a small hole into the bottom of the door to get it started—if the piece you just cut out is still pliable, the oven is not yet dry enough to continue. Allow the mud dome to dry completely through before continuing.

From this initial hole you can cut out the rest of the doorway, then remove all the sand from the inner chamber through this opening. Smooth out the doorway's edges and the oven's entire exterior using a piece of milled lumber or a smooth rock.

While you can use the oven without a door to close up the opening you just cut out, making one will very much improve the trapping and retaining of heat during cooking. Trace the shape and dimensions of the door out on a piece of paper, then use this as

a stencil for cutting out a door from a large piece of milled lumber. This door can then be fit snugly into the hole when cooking.

#### 5. Using Your Mud Oven

If you've made one, soak the wooden door in water for about a half hour before replacing it and using the oven—this will prevent it from scorching.

The first time you use the oven you will need to “fire,” or cure, it. Lay a woodpile inside reaching about  $\frac{1}{3}$ – $\frac{1}{2}$  of the way up its sides. Let the fire burn without the door in place, keeping it fed for 2–3 hours. When the soot on the inside of the dome is gone, the oven is ready to be used. Rake out the coals before adding your food and replace the door when baking.

Follow the process above for general use of the oven, though in subsequent uses it should be adequately heated and ready to use after only an hour or so.



#### CHECK OUT MY STOVE MODS, BRO

You can cut a hole out of the top of a basic mud oven, allowing you to rest pots and pans across it for a stove-like live fire cooking experience. Or you can use mud to create an upper and lower chamber within the oven—the fire can remain active in the lower chamber while you cook in the upper chamber. While these methods require you to be present for cooking, they cook food more quickly than the single-chamber oven.



## ZOMBIE VS. SHARK!

Perhaps the best aquatic zombie pop culture moment came in the 1979 film *Zombi 2* (also known as *Zombie, Zombie Flesh Eaters*, or *Woodoo*, and despite the title there was no original *Zombi*), which features a full-on underwater fight scene between a zombie and shark. And this was 1979, so there were no fancy CGI sequences—the “fight” was real. The shark was pumped full of tranquilizers and fed horse meat before the scene, which was shot in a large saltwater tank.

When the zpoc hits for real, can we expect zombies to be able to swim? Will they be infecting the very waters you hope to make a living from? Will you need to be watching your back even out in the drink?

It will depend on the type of zombie—are we talking the classic reanimated corpse? If so, they will

probably start off as flailing moaning buoys but eventually fill their inner cavity with water and sink down to the bottom where they will wander around looking for unsuspecting survivors. Max Brooks is a firm believer in zeds as an underwater threat, and in *Land of the Dead* George Romero depicts a breed of zombie unafraid of the water.

If the still-living-and-breathing-but-eating-people variety of zombie doesn’t have the intelligence or motor skills to swim and they venture out into the water, they will drown. Which is great! Unless they glut up the very natural water sources we will need to survive.

If the threat is one of those rare breeds of smart and coordinated zombies, well, then, we are all in real trouble because they might actually be able to backstroke their way over to your life raft or fishing boat.



## Making Your Own Sea Salt

Sea salt is what you have once all the water evaporates from salt water. (Get it? Salt-water? Yeah.)

Generally, 5 gallons of salt water will yield 2½–4 cups of salt, though this will vary depending on the salinity of the water you are using. If you are shellfish gardening in

an estuary like the Damariscotta, the salinity will be much lower than the full-strength water of the open seas, so probably best to haul out there to do your salt making.

Seaside, you can set up a quasi-traditional farming operation that produces salt through natural evaporation. This approach is slow



and will require some time and effort to set up initially, but needs virtually no attention thereafter. Find several large shallow containers, park them in a zed-safe zone (rooftops will work well), fill with salt water, then let nature do its thing. Completely open and unfettered containers with exposure to direct sunlight will get the job done quickest, but it is probably wise to build a structure of some kind to shield the containers from rain. You will also want to cover the containers with a protective screen (scavenged from a window or door, for example) to keep out bugs and other debris.

Alternatively, if you want to haul salt water back to your homestead, you can house the containers inside and let them evaporate in the safety (and relative cleanliness) of your abode.

If you are in desperate need of some salt and just can't wait for evaporation to happen naturally, you can boil salt water down until you are left only with the salt solids. This method gets tricky at the end, when it's easy to scorch the salt. Boil away about 90%–95% of the water, then leave the remaining slurry to evaporate naturally for a day or two.

## LIFE IS BEACHY BUBBLE 'N' SQUEAK

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Traditionally, the English dish known as Bubble 'n' Squeak was a way to use up leftovers from a roast dinner. The base is generally mashed potato and cabbage, with some meat thrown in for good measure. Then the whole lot is fried up in a pan—where it proceeds to make bubble and squeak sounds (= ah! moment).

In this aquatic take, some kelp is added to the potato and cabbage (some of the crops you will surely be growing to supplement your aquatic farming efforts), and smoked mussels (see *Smoked Mussels!* on page 328) are used in place of sausage or another protein.

### YIELDS:

2 Hungry Survivor servings, 4 Regular Joe servings

### REQUIRES:

Chef's or survival knife and cutting board  
Large frying pan  
Wooden spoon

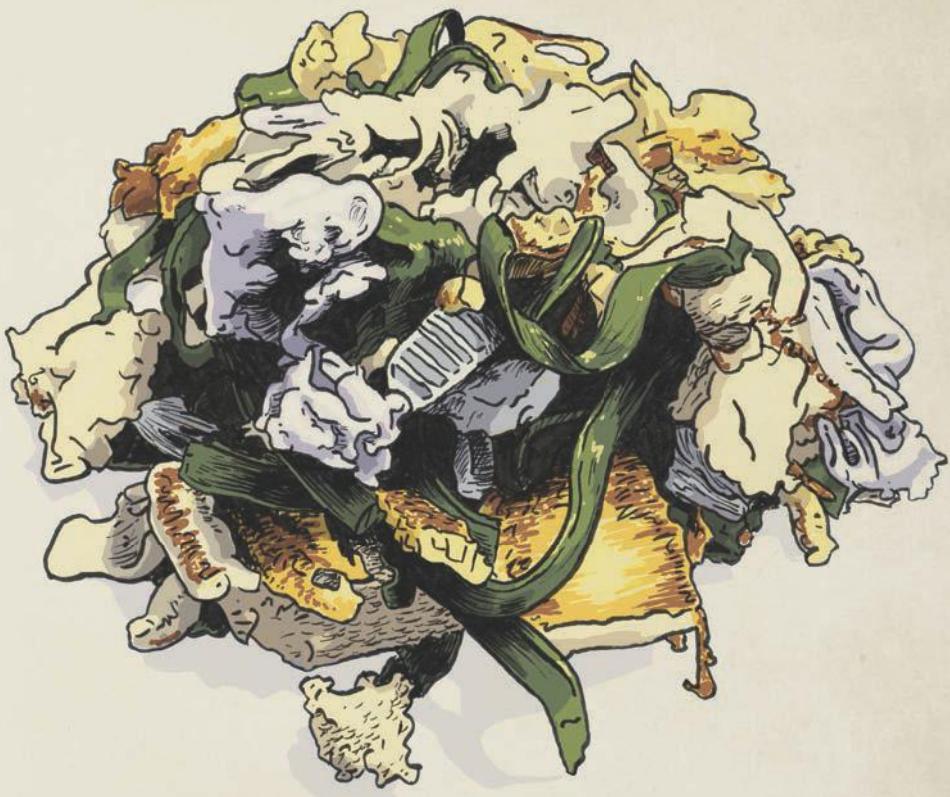
### HEAT SOURCE:

Direct, modified *Mud Oven* (page 320)  
stovetop or other *Stovetop Hack* (page 42)

### TIME:

30 minutes prep  
10 minutes cooking





## INGREDIENTS:

1 lb. cooked potatoes, cubed or mashed  
as per your preference  
½ lb. blanched cabbage  
½ lb. blanched kelp, chopped into bite-sized pieces  
1 c. smoked mussels  
1 small onion, minced  
Salt, to taste

## METHOD:

- ① Set up a modified *Mud Oven* stovetop or other *Stovetop Hack*. Heat a frying pan with oil or animal fat over medium-high heat. Once hot, add all ingredients and mix to combine.
- ② Fry, stirring occasionally, until the potatoes are nicely browned with a little crunch, about 5 to 10 minutes.
- ③ Serve immediately.



## SMOKED MUSSELS!

Try replacing the sausage meatiness of traditional Bubble 'n' Squeak with smoked mussel meats!

Twenty pounds of mussels will yield about 3–4 pounds of meat; once smoked the mussels can be stored in waterproof containers and stashed in your salty refrigerator (the water) for preservation. They should last for at least a month stashed in cool (32°F–40°F) water temperatures.

Here's how to smoke them:

1. Mix a brine of 3 gallons water and 1 cup (approximately 180g, depending on brand) sea salt (see *Making Your Own Sea Salt*, [page 325](#)).
2. Soak the live mussels in this brine for a couple of hours to remove the grit. Remove any floating mussels that have died during the soak.
3. Steam the mussels just until they open, approximately 5 minutes or so. Any mussels that don't open should be removed from the batch and thrown away.
4. Prepare a *Smoke Teepee* ([page 273](#)), setting up a cooking surface that will provide 145°F temperatures (see *Judging Temperature* on [page 47](#) for guidance). When they have cooled enough to be handled, remove the meat from each shell and set aside.
5. Mix 7½ cups of water, ¼ cup (approximately 45g, depending on brand) of salt, and 4 tablespoons of honey together until all ingredients are completely dissolved. Soak the mussels in this mixture for about 5 minutes, then strain but do not rinse.
6. Smoke mussels for about 2 hours at 145°F.
7. Let them cool, then pack in waterproof containers for storage.



# **DO YOU WANT TO PLAY AGAIN?**

**[PRESS START]**

Good for you! You pulled a Chris & Claire Redfield and managed to scrape through this tale of undead survival horror intact (well, the occasional Green/Red Herb combo and Ink Ribbon didn't hurt). Hopefully you were able to uncover the cause of the outbreak and dish out some good old-fashioned heroic justice to the evil corporation responsible for it all while you were at it. Either way—you got through this hellmare with nary a "You Died!" and emerged from the whole ordeal a mite better prepared than when you first opened this book. Thanks for reading!





## ABOUT THE AUTHOR

Lauren Wilson was infected with a rare strain of undead enthusiasm over a decade ago while fighting off the zombie menace of Raccoon City in the original *Resident Evil*. From video games to comic books, zombie walks to online communities, there are few corners of the culture she has not explored. And she's got a decent zed t-shirt collection, to boot.

When not nerding out about zombies, space, or *Adventure Time*, Lauren works in the world of food as a professional cook and writer. Since completing her culinary training at Toronto's George Brown Chef School in 2008, she has done a variety of

work—from restaurant cooking to cheesemongering, online sales to catering, teaching cooking classes to writing for print and online media. She completed research and course development work at George Brown, examining the career motivations, ambitions, and expectations of students with the aim of better understanding low female representation at the executive level of professional kitchens.

After eating up all the good bits of Toronto, Lauren followed a trail of crumbs to Brooklyn, where she is cooking, eating, writing, and teaching happily.

## ABOUT THE ILLUSTRATOR

Kristian Bauthus is a Toronto-based illustrator whose work has appeared in various publications, including *Health* magazine and

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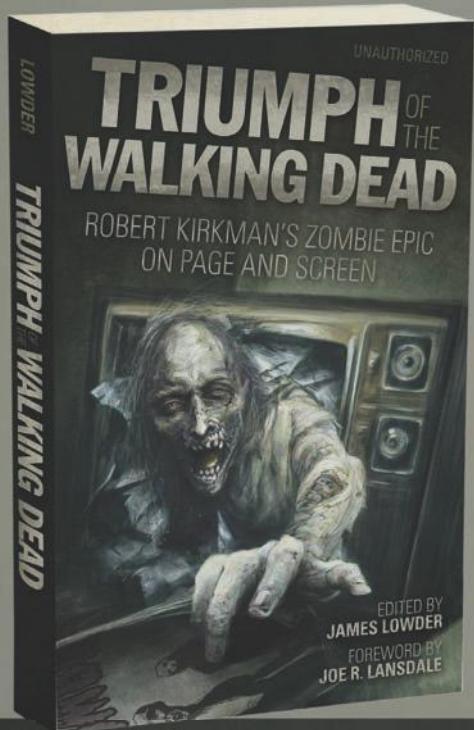
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# TRIUMPH OF THE WALKING DEAD



EDITED BY **JAMES LOWDER**  
FOREWORD BY HORROR LEGEND  
**JOE R. LANSDALE**

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