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Better to have, and not need, than to need, and not have.

A. Carrie

# Mark Your Calendars for TACDA'S 2018 CONFERENCE

### Saturday, June 9th 9:00 A.M. - 5:00 P.M.

Speakers will include: William Perkins, Sharon Packer, Gary Sandquist, Jay Whimpey, Jonathan Jones

> Please RSVP to our TACDA Office so we can plan accordingly (800) 425-5397

#### **CITY AND COUNTY BUILDING** 451 S. State Street, Salt Lake City, Utah

We hope you will plan to join us as we discuss important topics for today!

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#### PRESIDENT'S MESSAGE



#### WHAT WOULD YOU DO?

The people in Hawaii recently received an alert of an incoming ICBM with a nuclear warhead. There were reports of people in the streets crying, others putting their children in the storm drains and general panic all over. Not only were they terrified because they thought that they and their loved ones were

going to die, but because they had no idea "what to do."

Do you know what you would do if you received an alert of and incoming nuclear weapon due to arrive in 20 minutes? What would you do first, second, third, etc. If you have a plan in place and know what you would do, have you shared this information with family and friends?

What we do at TACDA is give you information to prepare you for this and many other possible disasters. Knowledge is one of the major keys to survival.

In addition to nuclear bomb threats we should be informed about Electro Magnetic Pulse (EMP), Solar Flares (CME), hackers or terrorism taking down the electric grid, economic collapse and civil unrest. We should also be aware of potential natural disasters such as earthquakes, hurricanes, tornadoes, winter storms or a pandemic. Understanding each of these gives you a head start to surviving.

If you have not started preparing I would suggest you attend a Red Cross First Aid/CPR course and purchase a good quality first aid kit.

It is also a good idea to start a resource library. Some of the books I recommend are:

- Making the Best of Basics by James T. Stevens
- *Dare to Prepare* by Holly D. Deyo
- *The Survival Medicine Handbook* by Joseph Alton, MD and Amy Alton, ARNP

Remember when the time of need arrives – the time to prepare has passed.

William David Perkins President E-mail: kd4fjl@att.net

#### FROM THE EDITOR

are privileged to present another fabulous edition of the Journal of Civil Defense. It is an honor to work with Polly and Lisa to bring you this valuable preparedness resource. I express my sincere gratitude to our contributing authors for donating their time and experience to bless the lives of others. We would not be able to create this resource without them. Preparing for an unknown future can be a daunting task. A seemingly endless variety of natural and manmade risks are looming from every direction, just waiting to strike. I invite you to take a deep breath and look at the progress you have made toward mitigating those risks. Well done! Now re-inventory the greatest risks for your specific circumstances. Armed with this current information revise your preparedness goals. What do you still need to do to keep you and your loved ones safe? Past issues of the Journal are a great resource. You can do this! I appreciate your feedback and the contributions you make which enables TACDA to produce this quality publication. You are making a difference. Please share this Journal with your friends and spread the word.

Kylene Jones"

Thanks, Kylene Jones Editor, *Journal of Civil Defense* 

# 5 VITAMINS You Could DIE Without

www.armageddonmedicine.net

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By Cynthia J. Koelker, MD Author of Armageddon Medicine

hen it comes to nutrition in a survival situation, there are many ways to die. Without water, you'll last only days. Without calories, survival is measured in weeks. Without protein or fat you may live several months or possibly years, depending

on calorie intake and muscle mass. But what happens if you have too few vitamins in your diet? Would you recognize and be able to treat a vitamin deficiency disease? Might you even die? Millions have.

Here are five possible scenarios you may encounter in a long-term survival situation. The diagnosis for each patient follows.

#### PATIENTS

#### PATIENT #1

Your teenage son has taken well to the challenge of chopping wood and raising chickens. Always a picky eater, since you ran out of Cheerios a few months ago he has lived on a diet of chicken breast and ramen noodles.

Lately the strenuous work seems to have made your son more tired and achy, and he often skips supper and heads straight for bed. "My gums are bleeding," he complains one morning, too tired to start the day. "I have zits all over my back and my legs are killing me. What's wrong with me?" he groans, collapsing on the couch, and revealing a strange black spot on his shin.

#### PATIENT #2

Y our mom has proven to be one of the most resourceful members of your survival group, though at 75 she has become increasingly tired and forgetful. As the cook for your busy family, she always made sure everyone ate plenty of fresh fruits and vegetables.

"It keeps you healthy-and regular," she liked to say, which seemed true enough in the three years since the EMP closed nearly every store in town. She ate everything from her well-kept garden, though she never did acquire a taste for the possum and venison your husband managed to provide once the canned meat ran out. Still, she was willing to prepare it for the family.

"My carpal tunnel problem seems to have spread to my feet," she apologized, after tripping over a rug one day. "I don't know why they're so swollen and tingly. I think I'll just go to bed." That was two weeks ago, and she hasn't gotten out of bed since, growing weaker each day. "I'm too tired to live," she muttered, before lapsing into a coma.

#### PATIENT #3

As a teacher you've managed to keep a small school going for a handful of orphans. Sarah is one of your favorites-the math whiz of the class. Fortunately, you've had enough food to share with the children. Though the drought has lasted four years already, you figure you have enough dried corn on hand for another four. Maybe you could even plant some, if only it would rain. The small spring has yielded a steady supply of drinking water, but even the weeds are too parched to grow.

But the food might not matter if the diarrhea doesn't let up soon. The whole school has been plagued with it, and now 5-gallon buckets sit in every corner for emergency use. The kids rarely want to play outside anymore and complain that it makes the rash on their hands worse. Lately Sarah has been having trouble with simple arithmetic, even reading. Is it an infection, you wonder? Do they all have some germ? And why can't Sarah think straight?

#### PATIENT #4

ow can your whole group have become so ill so quickly? It couldn't be radiation sickness-all vour meters have been clear. Everyone had seemed fine for the first six or seven months. Then things started falling apart. Ed, the old drunk had gone crazy first, even without his booze. So far he was the only one to die. But now even some of the strongest men had swollen legs and shortness of breath. Many complained of leg pain or tingling, and some could barely walk. It couldn't be starvation-there was enough rice to last a decade. Your own daughter was unable to speak more than a few words, and her eyes twitched constantly back and forth.

Soon there wouldn't be enough healthy workers to care for the sick. Even the chickens had died. Would the rest of you follow Ed to the grave?

#### PATIENT #5

**E** veryone cheered when baby Nathan was born. He was the first addition to the community in over a year. At 7 pounds 6 ounces, and 21 inches, he was the picture of health and took to the breast within minutes. Brianna, his young mother,



proudly reported he slept soundly his first night. The rabbi would soon come to circumcise him.

Except for a little bleeding from the stump of his umbilical cord, Nathan thrived his first week. Then, though Brianna refused to watch the procedure, she welcomed the rabbi into their home for the ritual circumcision, waiting upstairs for the procedure to be over–it shouldn't take more than 15 minutes, he'd said. She knew he'd begun when baby Nathan let out a shriek of pain. His terrified wale tore at her heart, but soon his crying quieted.

Half an hour passed, and still no one came to fetch her. She made her way to the kitchen to reclaim her beloved infant, surprised at how quiet the house had become. Nathan's blanket was stained a dark red, and blood dripped from the table. Nathan was no longer moving. Nathan was no longer crying. Nathan was no longer breathing. No one spoke a word.

#### DIAGNOSES

#### PATIENT #1

V itamin C deficiency can occur in anyone, not just sailors long at sea. Its importance in the diet has been known for centuries, if only as a component of certain foods.

Since its discovery in 1932, Vitamin C has become popular as a supplement in a multitude of processed foods, from cereal to candy bars. Vitamin C deficiency disease, or scurvy, begins with weakness, fatigue, and irritability. Joint and muscle pain follow, along with weight loss, dry skin, hemorrhages, and shortness of breath. Left untreated, it may lead to death, often within just months. Dietary deficiency is the primary cause.

Fortunately, Vitamin C deficiency may be prevented and treated with common foods, such as citrus fruits, tomatoes, peppers, berries, potatoes, leafy green vegetables, even rose hips and pine needles.

Seeds contain little vitamin C, but upon sprouting, plants begin to synthesize the vitamin. Most meats contain negligible amounts, although organ meats are a good source. Fresh plants are best, since both cooking and freezing decrease the amount of available vitamin C in foods.

The World Health Organization offers a free download containing all you need to know about scurvy http://www.who.int/nutrition at /publications/emergencies/WHO\_N HD\_99.11/en/, including a fascinating table of the foods and plants 18th century sailors used to prevent the disease. The amount of vitamin C in an orange, a green pepper, or one cup of strawberries, tomatoes, or broccoli meets the recommended intake of approximately 50-75 mg/day. A fact sheet from the NIH lists additional vitamin C containing foods at https://ods.od.nih.gov/factsheets/VitaminC-Health Professional/.

#### PATIENT #2

n an elderly person with increasing fatigue, forgetfulness, and tingling or numbness, the diagnosis is vitamin B12 deficiency until proven otherwise.

Death may occur via side effects of anemia, such as dizziness with falling, or congestive heart failure. The associated dementia may be wrongly attributed to Alzheimer's disease or simply old age.

The cause of vitamin B12 deficiency is often dietary, though diseases that inhibit absorption of B12 from the diet are also common, such as colitis, atrophic gastritis, long term stomach acid suppressant medications, or prior weight loss surgery. Dietary vitamin B12 comes only from animal sources (meat, milk, eggs), and so diets deficient in these may lead to deficiency over time.

In a healthy person, the body stores enough vitamin B12 to last about three to five years, partially

Death may occur via side effects of anemia, such as dizziness with falling, or congestive heart failure.

dependent on how well the B12 is recycled within the body. However, people who are borderline deficient may become symptomatic rather quickly if supplemental or dietary sources become suddenly unavailable. In the United States, vitamin B12 deficiency is a common problem even today, especially among the elderly.

A healthy body only needs a tiny amount of vitamin B12 daily to prevent deficiency disease, on the order of 2.4 micrograms per day. Compare this to the amount used to treat vitamin B12 deficiency, which can be up to 1,000 times as much (1 to 2 milligrams per day).

Even people who have trouble absorbing B12 from their diet will generally absorb enough when given such a megadose, including many patients who have been prescribed vitamin B12 via injection.

Vitamin capsules often contain 1,000 mcg of vitamin B12, meaning just one capsule contains potentially enough for one person for a whole year, if taken a tiny amount at a time. If taken all at once, the excess will simply be excreted in the urine, doing no one any good.

When all vitamin B12 must come from natural food sources,

B12 deficiency becomes much more common. For this reason, nowadays many foods are fortified with vitamin B12. For example, one serving of Total cereal contains 100% of the recommended daily amount, as does one serving of some vitamin water products.

Of natural foods, meat, milk, eggs, and cheese are good choices. Clams and beef liver are especially high in vitamin B12. Six ounces of trout or tuna will provide a full day's requirement.

A free fact sheet on vitamin B12 is available from the National Institutes of Health at: https://ods.od.nih.gov/factsheets/Vit aminB12-HealthProfessional/#h3.

#### PATIENT #3

Pellagra is the disease resulting from a deficiency in niacin (vitamin B3). The most consistent symptoms are diarrhea, dermatitis, dementia, and death-the 4 "D"s, generally presenting in that order. The skin lesions are most prominent on sun-exposed areas, such as the neck and hands. Without the typical rash, the diagnosis may be difficult, especially when other nutritional deficiencies may be present.

A diet primarily reliant on corn will often lead to pellagra. Although corn contains niacin, in its natural state the niacin is in a bound form that cannot be absorbed by the body. Fortunately, the niacin can be altered to an absorbable form via the process of nixtamalization, wherein the dried corn is simmered in alkaline water (limewater, ash water) for a few to several hours before it is used, either fresh (such as in hominy or the making of tamales) or re-dried and ground into flour for later use. Nixtamalization is a simple process that people reliant on a diet heavy in corn should learn.

A well-balanced diet is the best defense against pellagra, and should include a variety of whole or enriched grains, meats, milk, peanuts, brewer's yeast, and leafy green vegetables.

An average daily intake of 15 to 20 mg of niacin daily will prevent pellagra. Many multivitamins contain 100% of this daily recommended amount. A single 500-mg capsule of niacin contains nearly a month's worth of the recommended amount, if taken a little at a time.

Since niacin is a water-soluble vitamin, it must be replenished to the body on a regular basis, so frequent small doses are far superior to an occasional large dose.

A free eBook on pellagra is available from the World Health Organization at http://www.who. int-nutrition/publications/en/pellagra\_prevention\_control.pdf.

#### PATIENT #4

n the United States today thiamin deficiency, or beriberi, is seen mainly in chronic alcoholics who have both decreased levels of thiamin intake as well as poor absorption and bodily utilization of the vitamin. Otherwise nutritional thiamin deficiency is seen primarily in stressed populations, such as refugees and prisoners.

Historically, thiamin deficiency was found in areas of extreme poverty, particularly where inexpensive white rice was the mainstay of the diet. Eating whole grains prevents the disease.

There are four known forms of beriberi, which may make recognition of the problem difficult.

• Dry beriberi causes damaged nerves resulting in partial paralysis, tingling, numbness, abnormal eye movements, pain, difficulty walking, and wasting, as well as confusion and speech difficulties.

- Wet beriberi affects the heart and circulation, leading to heart failure, swelling, shortness of breath, and sometimes death.
- Gastrointestinal beriberi affects the digestion system, causing nausea, vomiting, and abdominal pain.
- Infantile beriberi may present with any of the above problems.

Because thiamin stores within the human body last only a few weeks, it must be regularly replenished. When treated with thiamin, symptoms of the disease can begin to improve within hours, though full recovery may take months.

The daily requirement is only about 1 mg in adults, and proportionately less in children. Again, one 500-mg capsule would contain enough for a whole year, if taken a tiny amount at a time. Foods rich in thiamin include whole grains, meat, and cooked fish.

A free eBook on thiamin deficiency and beriberi from the World Health Organization is available at http://www.who.int/nutrition/publications/en/thiamine\_in\_emergencies\_eng.pdf.

#### PATIENT #5

H emorrhagic disease of the newborn is caused by a deficiency of vitamin K, which is essential to proper blood clotting. Normally, bacteria in the human gut produce vitamin K which is subsequently absorbed by the body.

In the newborn, the gut is sterile until it becomes colonized with common human gut bacteria, which generally takes a week or two. In the meantime, a newborn may become rapidly deficient. Little vitamin K is present in human breast milk and many infants have minimal bodily stores of vitamin K, making them susceptible to deficiency and blood clotting disorders.

Bleeding may occur from the umbilical cord stump, the nose, mouth, digestive system, brain, or from surgical procedures, such as circumcision. Death may occur from excess blood loss.

The disease is preventable by administering vitamin K to newborns at birth. Increasing the mother's consumption of vitamin K in the few weeks preceding childbirth may also be effective.

Normally, hospital nurseries inject all newborns with vitamin K to prevent the possibility of this disease. In a survival scenario lacking this option, pregnant mothers should eat a diet rich in leafy green vegetables, such as greens, kale, and lettuce, especially in the last month of pregnancy.

An additional option for newborns is oral vitamin K, which has been studied in Denmark but is not recommended in the US.

(See article is available at https://www.ncbi.nlm.nih.gov/pub med/12892158.)

#### The Take-Home Lesson

**D** eath from vitamin deficiency is a real threat but is definitely preventable. You can die of malnutrition even if you have all the calories in the world.

The take home lesson here is be prepared. It's easy and inexpensive to add daily vitamins to your emergency food stores. Better yet, make sure to have a wide variety of foods stored to supply you and your family with all the essential vitamins and minerals. Even better is to take stock of your environment and learn where you can find vitamins and minerals in the plant and animal life around you, from acorns, to sun chokes, pine needles, hostas, maple sap, even grass seed. It may save your life one day. •









~1~

~2~





~4~



~5~







~7~



~8~





# Why Build **CSP SHELTERS**

By Paul Seyfried In response to an email hank you for your observations about our current military situation and desire to mitigate the risks thereof. We have been active in building NBC (nuclear, biological, chemical) shelters for the ordinary citizen for 29 years.

We were fortunate to have the opportunity to consult with a handful of individuals who invented the nuclear age. Several were also instrumental in constructing and testing shelters under nuclear blast conditions at the Nevada Test Site in the USA during the 1950s and 1960s open-air testing period. Since those tests were performed, shelter technologies surrounding air handing units, blast valves, doors-have vastly improved. Switzerland is the world leader in shelter components...ventilation, filtration, and However. armored closures. Switzerland's primary shelter formats have hitherto revolved around reinforced concrete structures.

We recognize the value in properly designed concrete shelters, but favor the economy and robustness of the corrugated steel shelter concept. All have their place. Not all locations are friendly to corrugated steel shelters, or nearly any other design. High water table areas do not lend themselves to shelter constructions. For example. in Germany during WWII, many of the areas prone to allied bombing had high water tables. To compensate, the Germans built above-ground shelters called "bomb-proofs". These featured heavily reinforced concrete buildings with four foot thick walls and ceilings. Many suffered direct hits by allied bombs, but there is no record of a single injury suffered inside one of these shelters during the war. Some of them were built four stories high.

A corrugated steel shelter, buried properly, and with the correct entrance geometry, can offer a high degree of protection for occupants to within 500 meters of the crater edge of a one megaton surface burst nuclear weapon. For airbursts, they are considered "sure-safe", that is, they will suffer no damage .... at ground zero, for the maximum overpressure from the blast will not exceed 50 pounds per square inch (psi). It is critical to have small diameter entrances in this environment, with 90 degree turns and long lengths on the horizontal and vertical legs. There are specific formulas used to calculate the protection factor (PF) of an entrance.

Many shelter manufacturers we have observed do not understand this, and offer entrances that greatly compromise protection from both prompt, and delayed radiations. A sure sign of a poorly designed shelter is an entrance that penetrates the ceiling of the shelter itself, such as in photo 1, of a generator shelter. WE built this generator shelter for a client, but it is NOT intended for protecting human life. Diesel generators do not care about radiation penetrating inside. This entrance was used to make engine removal, at some future date, easier.

A personnel entrance utilizes a 90-degree elbow, which is attached to the shelter hull while it is in the trench, as seen in photo 2. This picture shows an emergency exit, installed in a 90-degree vertical angle. For a safer and more convenient arrangement, we roll this entrance over to around 60 degrees, as in photo 3. A band used to secure the extra sections needed to extend to the surface is shown around the vertical leg of the elbow (photo 4). From the inside, it looks like photo 5. Here, you can see a man standing on the stair in a 54-inch diameter entrance, and the wiring arrangement for bringing in supplementary solar and portable generator power from the outside to maintain the batteries stored under the shelter floor (photo 6). These power the shelter lights, appliances, ventilator, and other equipment.

Photo 7 shows a 10-foot diameter by 30-foot-long steel shelter during installation, showing part of the air intake pipe and main entrance elbow in place, with crushed rock surrounding the shelter hull. It is critical that crushed rock be used to backfill under and around the cylindrical hull for proper support. A two to three foot layer of "road base" soil is placed over the hull before native fill is backfilled to grade to ensure proper earth arching during wet conditions.

Photo 8 shows the inside of the main stair to the surface. A steel hatch door is used to secure the shelter and protect against blast effects. It is surrounded by a collar of concrete 24 inches deep to securely attach it to the entrance.

In photo 9, one of our staff explains the electrical system to a client. You can see most of the air handling system, electrical system, and main entrance. The ventilation system is still being assembled, so the gas filter is not shown here. But I think you have at this point, some idea of what the shelters look like on the outside, how deep we install them, entrances, hatches, etc.

I find it amusing that most Americans have, until now, not been very interested in your situation until North Korea successfully tested a rocket that could reach *them*. Where someone stands on an issue depends on where he sits!

Best regards,

Paul Seyfried Utah Shelter Systems, Inc. 801-631-7684

## POUNDS OF POTATOES

By Jonathan B. Jones, PE TACDA Advisory Board

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THE REAL PROPERTY AND

When I ask people how they are coming with their preparations, I often hear something like this: "You know, life is busy and my kids are doing this and this and this, and, you know, I think about it once in a while, but right now there is just no time." And this is always the best and most predictable part: "You know we will all be coming to your house if things go bad (lol)." And sometimes they tack on something like: "But seriously, if it all goes bad, I can turn this little spot into a garden and take care of my family." In fairness, they simply don't understand. They don't know what they don't know!

I realize that there are many who are engaged and thinking clearly (most likely, I am talking about you). Unfortunately, I feel like I am continuously "preaching to the choir" (to use a worn-out phrase), but at least someone will listen to me.

I think gardens are a good metaphor for the whole process of preparing and living providently. Good gardens require numerous years of developing the soil, learning when and where to plant, when and how much to water, how to deal with the pests (everything from weeds to those  $@\&\%^*$ squash bugs), knowing when to harvest and how to use and store the fruits of your labors. It's the expanded version of the law of the harvest.

It takes desire, patience, and persistence to figure it all out and even then,

depending on the year and the weather and other factors, you find yourself in learning mode, but at least you have the basis for further learning.

Preparing, in all its aspects, also takes desire, patience, and persistence. Generally, it's really not difficult, it just takes time and a willingness to learn. Don't misunderstand, I don't advocate a life that is out of balance. I believe that we can all make room in our lives for a slice of preparedness, but because we take small steady steps, it requires us to start early and make continuous progress. I have found this journey to be productive and satisfying.

Anyway, back to the garden. This past summer, I learned a few things about gardening. I am definitely not an expert at gardening, but thanks to my father and my wife, I have learned a few things. One of the most important things I have learned is that you will never know it all. I have confirmed this with expert gardeners that have gardened for 50 or more years. As is the case with most of life, we try to mostly selfish as I really don't like digging the potatoes. With 30 pots, I figured we would get at least 90 pounds of potatoes which would be enough to last our family for one or two months. Based on the title of this article, you may have guessed that we only got 15.6 pounds of potatoes. That is about enough for three meals for our family. I probably don't need to tell you that this was very disappointing.

I pondered on what this meager



learn sound principles and then apply them in logical (and sometimes not so logical) ways and we muddle through the best we can.

One recent learning experience involved potatoes. I determined that I would plant potatoes in large, black tree pots. We did this once before, and it turned out well. The best part was the excitement experienced by our young children as this "treasure hunt" unfolded as documented on YouTube – Our Family Garden Container Potato Harvest 2011. I must admit that it was a fun and rewarding experience. My reason for wanting to do it again was harvest would mean "if this had been a real emergency" and I had to figure out how to feed my children. We know that these things are going to happen, which is the most compelling reason for making preparedness and provident living a part of our lives.

I appreciate the many who are part of the solution, and challenge each of us to make steady progress to help ourselves and others enjoy the peace of mind that comes when we are not dependent on those who ultimately will let us down when we need them most. Prepare well!



## When State Hackers Take Aim at the POWER GRID





#### By Bruce Curley TACDA Board

he question is no longer IF hackers will take aim at the power grid. They already have. Stories of hackers penetrating our energy sector regularly appear in the news.

For example: "Dragonfly: Western energy sector targeted by sophisticated attack group, Resurgence, in energy sector attacks, with the potential for sabotage, linked to re-emergence of Dragonfly cyber espionage group." (https://www.symantec.com/connect/blogs/dragonfly-western-energy-sector-targeted-sophisticatedattack-group).

Or, from the New York Times: "Since May [2017], hackers have been penetrating the computer networks of companies that operate nuclear power stations and other energy facilities, as well as manufacturing plants in the United States and other countries. Among the companies targeted was the Wolf Nuclear Creek Operating Corporation, which runs a nuclear power plant near Burlington, Kansas" (July 6, 2017 https://www. nytimes.com/2017/07/06/technology/nuclear-plant-hack-report.html).

"Communist Red Chinese have entire divisions in their military devoted to hacking."

Enter "hackers + power grid" into www.duckduckgo.com (unlike the behemoth, Google DuckDuckGo will not keep a record of your searches) and see just how this prior abstract danger has become a clear and present one.

Unfortunately, the most common meme of a hacker is the one created by Hollywood, usually a smart, gifted, perhaps lonely teen in his bedroom with a hankering to explore the deep recesses of the Web. (Think of Matthew Broderick in the movie War Games.)

The real world of real hackers is very different. For example, the Communist Red Chinese have entire divisions in their military devoted to hacking, discovering and exploiting American infrastructure. Their genius is that they pair a hacker criminal, say from Hong Kong, with a disciplined lieutenant colonel from the Red Chinese People's Liberation Army (PLA). It is a variation on the old option judges used to give teens in this country: jail time or join the U.S. Marines.

The Red Chinese version is that they give the arrested Chinese national hackers the option of jail time or-use their hacking skills to advance the superpower ambitions of the Communist Chinese Party. The Red Chinese learned decades ago it was easier to steal American technology advances to accelerate their economic development in a spectacularly rapid pace. They have continued this strategy in the cyberwar sphere. Their command strategy has, as its first tenant, the taking down of digital capabilities in the U.S. Taking out the power grid is a primary tenant of that strategy. They prefer to take our systems down in a digital manner without dropping one bomb or firing one bullet.

"Incidents of foreign network penetration and espionage ... conducted by the Chinese government have recently become both more frequent and more clearly attributable to the People's Liberation Army (PLA) rather than independent nationalist hackers, and 33% of all cyberattacks in the third quarter of 2012 seemingly originated from China." This PLA attack on our critical infrastructure was identified over five years ago and has only increased in the intervening years.

Unfortunately, they are not alone. There are many other nations (Russia, North Korea, Iran, etc.) that have realized the same strategy. And they are probing and penetrating our systems daily.

Cybersecurity—the ability to protect or defend the use of cyberspace from cyber-attacks—is a goal that requires many layers, much creativity, and eternal vigilance. Below I list organizations that exercise those skills daily.

#### WHAT IS TO BE DONE

n the world of cybersecurity, given the potential harm that can be done immediately to our entire way of life, the old reactive strategy (Think—Decide—Act) has been replaced by a proactive strategy (Decide—Act—Think).

The websites below act as the cybersecurity canary in the dark Web mine. To be proactive, you need a proactive tool set. Signs of an impending cyberattack may be identified by such entities before the actual attack starts. The organizations below will be among those who are the first line of defense to that attack. By following them, you may be able to identify the danger of a power grid attack before it hits. The good news is that we do have quiet professionals, cybersecurity experts, who daily countermand the cyber hackers.

#### WHO HANDLES THE HACKERS— PRIVATE SECTOR

T here are numerous private sector companies that handle the day-to-day threat of hacker probes and penetrations of our critical infrastructure. Should there be a hacker attack on the power grid, they are the first line of defense. A few are listed below.

ORGANIZATIONS	DESCRIPTION
Advanced Persistent Threat (APT) Groups and Operations http://tinyurl.com/y74n28el	The sheet is maintained by a select group of editors and includes data of APT activity by China, Russia, Iran, North Korea, etc. Their tools, operations, and targets.
CISCO https://www.cisco.com/c/en/us/ products/security/index.html	Offers network security and incident response. Boosts IT productivity through automation and advanced threat protection, next-generation firewalls, intrusion prevention systems (IPS), secure access systems, security analytics, malware defense, web and email security, network security, and cloud security.
CyberSecure IPS https://www.cybersecureips.com/	Provides protection against critical infrastructure intrusion attempts and dispatches first response teams in real-time.
FireHOL IP Lists http://iplists.firehol.org/	Analyzes security IP feeds to identify cybercrime and malware trends and data analytic tools to track unique IPs.
IBM X-Force Exchange https://exchange.xforce.ibmcloud.com/	Exchange threat platform (malicious IP addresses, botnet distributions) with a security intelligence blog and forum for responders to post information on common vulnerabilities.
Malware Check http://malwarecheck.org/	Monitors URLs for suspicious malware, virus, worm, phishing and other activity by a search engine.



The ability to produce your own food can be very important in a crisis situation when normal sources of supply are interrupted. Of course, we should have a substantial supply of food stored, but in longer-term survival situations we must be able to produce food.

#### By Jay Whimpey, PE TACDA Board

The objective for gardening in a survival situation is to produce the maximum amount of food, containing the largest number of calories, with the lowest expenditure of effort and resources. The conversion of the maximum amount of ground from an unproductive to productive condition is essential while using the minimum amount of materials, labor and water. In order to accomplish these objectives, it is important to choose the right plants to cultivate. Corn, squash and beans are recommended because they have a relatively short growing season and produce a relatively large amount of high calorie food. A study of Native American cultures shows that they used such crops extensively and survived on those crops along with other animal sources of food.

The best way to minimize the amount of resources used is to cultivate the minimal amount of area. The above ground vegetation must be cleared from a relatively small area of about 2-feet in diameter and then a hole can be dug in the middle of the area about 10 inches in width and depth to provide an adequate location to grow squash plants.

The soil that is removed can be mixed with some compost to create a good soil and then placed back in the hole leaving the new surface about two inches below the previous surface level. If the plants have been started in a small cup, it is easy to make a depression in the loose soil and compost mixture to place the roots of the plants to be transplanted.

If you are planting from seed, then simply bury the seeds at the recommended depth in the soil which is about four times the thinnest dimension of the seed. The small depression can then be liberally supplied with water to provide the proper environment for germination for the seeds or establishment of the small plants.

The plants will need to be watered on a regular basis, especially when young, and will have to be watered by hand, most likely, because of the small widely spaced areas where the plants are planted. A small watering can makes this very easy and practical.

Plastic watering cans are best because they will not corrode when handling fertilizer solutions. Neighboring vegetation will not tend to grow and become a weeding issue, or obstruct the sunlight for the desired plants, if the watering is kept to a limited area. The depression where the plant was planted will help keep the water in the localized area where the plant can use it and minimize the use of water. The small 10-inch area can support bush type squash plants that are over 6feet in diameter or vining type squash plants that cover an area of





"This planting method can be used for green beans and corn, as well with the small areas filled with multiple plants."

over 20 feet. Be sure to space the areas appropriately when preparing the small areas.

The plants should be provided with fertilizer that contains nitrogen, potassium, and phosphorous



on a weekly basis. A couple of tablespoons of a good general lawn and garden fertilizer should be dissolved in roughly a quart of water and then each plant area depression can receive a cup of the fertilizer solution near the root area without splashing on the leaves of the plant. Again the depression that was created earlier will help keep the fertilizer near the root ball where it can be used by the plant and minimal amounts of fertilizer will be available for neighboring weeds.

This planting method can be used for green beans and corn, as well with the small areas filled with multiple plants. The method can be adapted to row crops with the same principle of minimizing the area actually cultivated, watered and fertilized for useful plants and minimizing the water and fertilizer wasted on neighboring weeds. It is much more efficient than traditional gardening where a large area is prepared and only a small percentage of the area is used for the plantswhere flood irrigation or sprinkling



water on a large area, thus wastingwater as well as encouraging weed growth. By the way, dead vegetation such as grass clippings can be spread around the plant to reduce competing vegetation growth.

Grow boxes that are already in existence can be very efficient for growing vegetables, but should be established before a crisis arises because the materials to build the grow boxes may not be available in an emergency situation.

As with any survival skill, gardening must be practiced before an actual crisis occurs and we need to depend on raising our own food. Enjoy your gardening practice! •

### Nature's Perfect Longer-Term Storage Food

#### By Jonathan and Kylene Jones www.theprovidentprepper.org

oney is an ideal longer-term food storage option. It remains in great condition indefinitely when stored appropriately. Honey contains naturally flavored complex sugars as well as trace enzymes, minerals, vitamins, and amino acids along with a variety of flavonoids and phenolic acids, which act as antioxidants. Honey is an all-natural sweetener with 17 grams of carbohydrates and 64 calories per tablespoon. Raw unpasteurized honey has natural antibacterial and antifungal properties.

#### **SHELF LIFE**

It is possible for honey to remain stable for decades, or perhaps centuries, if appropriately stored in sealed containers. As honey ages, it may undergo physical and chemical changes which result in darker honey, a decline in aroma and flavor, and crystallization. It remains edible through the aging process. Commercial, filtered liquid honey will last the longest in storage. Honey has an indefinite shelf life due to its resistance to microbial growth.

#### WARNING

Honey may contain Clostridium botulinum spores which may cause infant botulism. Honey should not be fed to infants under one year of age. This is a rare, but serious disease which affects the nervous system. Adults and children over one year are not affected by the spores in honey.







#### **ADVANTAGES IN BAKING**

Honey may take up less storage space than other sugars. When substituting honey for granulated sugar in cooking you only need half of the amount. Honey has a high fructose content which gives it more sweetening power than granulated sugar. Honey is hygroscopic and attracts moisture to the bread or dessert, a valuable trait in baking. A little bit of honey can turn plain old stored wheat into a tasty meal.

#### **COMMON CONCERNS**

Crystallization is a natural process and does not affect the quality of the honey. Simply warm the honey and it will return to its original liquid form. Do not allow the honey to boil as it will change both color and flavor. Methods to re-liquefy honey:

- Place a jar of honey in large container of hot water until crystals have dissolved.
- Place honey in an uncovered microwave-safe container and microwave for 30 seconds. Stir. Repeat until crystals dissolve.
- Place a jar of honey in a warm place.

#### HONEY IS HEAVY

One cup of honey weighs a whopping 12 ounces, which is 50 percent heavier than water. One gallon of honey weighs about 12 pounds. A 5 gallon bucket weighs 60 pounds, which makes it quite challenging to handle. For most storage plans, we recommend storing honey in smaller containers.

#### **STORAGE CONTAINERS**

Glass containers do not react with honey to change or alter original quality. The honey we harvest from our bees is stored in pint-sized canning jars. Dark or non-transparent containers protect honey from light. Lined, food-grade #10 cans can work for storing honey. Do not remove oxygen. Honey is slightly acidic. It will cause rust in metal containers or on metal lids.

Honey is often purchased in thin plastic containers. While this may be fine for shorter term storage, some plastic is not ideal for longer-term storage of honey because plastic is permeable and may allow for the absorption of surrounding smells. The plastic will break down over time compromising the honey inside.

Food grade plastic buckets are an acceptable choice for storing honey. Be sure to store the buckets off of concrete and away from chemicals. A five gallon bucket is not our first choice due to the weight of the bucket and difficulty in rotating. However, the tradeoff is that buckets enable you to store a lot of honey in a small space.

Five gallon metal cans are also used to store honey. We had one metal can of honey, which was 30-35 years old when we noticed that the honey began to eat a hole in the bottom seam of the can. The small lid on the top made it challenging to use so it just sat in storage. We hauled it through seven moves and finally decided it was time to use it. The honey had crystallized and turned quite dark. It had a deep, robust flavor which was delightful. The process to transfer the honey to smaller containers took several days as it had to be slowly heated and poured from the can. We lost about three quarts in the process.

Honey is a fantastic sweetener to include in your short-term, as well as your longer-term food storage. It is a healthier alternative to granulated sugar or corn syrup. We recommend storing 60 pounds of honey per person for a one year supply. The color and flavor of honey varies depending on the nectar source. Now go and experiment with the subtle flavor differences and stock up on this delightful food of the gods.

JOURNAL OF *Civil*DEFENSE

# ACTIVE AGGRESSIVE BEHAVIOR

By Colonel Jim Smith MSS, CLEE, CPC, NRP, FABCHS

#### SOURCE MATERIAL

his material is derived from a variety of sources including open source material from the United States Secret Service (USSS), the Federal Bureau of investigation (FBI), material from Homeland Security Active Shooter resources, open source material from

the US Northern Command, US Naval Post Graduate School, Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE), and others. When feasible, official reports for incidents such as the Connally Report from the Texas Tower shootings, and the Jefferson County Sheriff's Department report for Columbine, were used.

#### **FBI DATA**

M ost of the active aggressive behavior incidents occur in medium to small sized communities according to the FBI Bulletin. Some statistical data published by the FBI is important:

- Most incidents occur in small to medium sized communities (obvious exceptions such as Pulse Nightclub attack, San Bernardino, and Las Vegas incidents)
- Average incident is less than 12 minutes, with about 40% less than five minutes
- Almost every event is a single aggressor, usually a shooter
- Almost every shooter is male
- Slightly less than half commit suicide during the event
- Improvised explosive devices (IEDs) are rare but do occur (Columbine)
- About 10% of the actors stop the aggressive behavior and leave
- About 20% of the actors go mobile with his or her active aggressive behavior (shooters typically)
- Almost half of the events are completed before police arrival
- About half are in progress when police arrive
- Many actors stop (commit suicide) when police confront them
- Police can act in most events if the event is in progress
- About one third of officers responding are shot if the shooting event is in progress upon their arrival (very high-risk event for law enforcement or armed citizens)

#### **INTRODUCTION**

M ass shootings and active aggressive behavior have been an issue in the US for many years. These incidents have become more frequent and seem to be a horrendous problem that only the US experiences, but such is not true as many countries have similar issues.

"Usually active aggressive behavior does not cease until intervention occurs."

Violent crime in the US has been on the decrease since the 1990s, except for some metropolitan areas, which have seen increases in violent crime. Part of this perception is the "see it while it happens" media reporting as many of the events are carried as they are in progress or during the immediate aftermath.

Recent research from the University of Illinois shows that mass killings are not increasing, and the rate is stable with most resulting from family or domestic related violence. The same research places the typical event as killing four people. Some say gun control is the answer to prevention of these incidents yet countries with stringent gun control measures have similar mass murders with similar numbers killed and injured using other weapons. The other weapons vary from vehicles, IEDs, incendiary devices, acid, and edged weapons.

The problem of active aggressive behavior has no simple solutions such as restricting firearms or incarcerating those with mental health issues. A holistic approach must be accomplished to reduce the threat.

Those with mental health issues carry out many of these incidents. Serious mental health illness plays a role in many of the incidents. When terrorist attacks are excluded, those aggressors with mental health issues tend to kill and injure larger numbers in workplace shootings. This appears to be based upon a revenge motive as evidenced by data from the FBI.

One must remember that these events are examined with "20/20" hindsight noting the information available. Many wonder why the information was not acted upon. The reasons vary but lack of reporting, tracking, and understanding of information is common to many of the events. Those responsible for the prevention, deterring, and response to these incidents



must understand that prevention is the primary goal. To achieve such, a culture of reporting is needed to detect and deter internal threats.

While target hardening, and security is needed to discourage and prevent external threats, one must guard against the internal threats first. Terrorist attacks must be a consideration in high-risk facilities and areas with a dense occupancy, however, the internal threat of a workplace shooting must also be considered.

Many consider active aggressive behavior as a person or persons in a dynamic situation attacking multiple individuals. The situation is not static-such as a hostage situation with a bank robbery interrupted by police, in which a barricade situation exists. Active aggressive behavior may involve more than one locale or movement through a large locale such as a large building, mall, stadium, or involving several locales. The individual(s) present an immediate threat and are armed with firearms, IEDs, edged weapons, or other deadly weapons. The actor presents a clear danger and the person is attacking those present. An immediate response by law enforcement is required to isolate, contain, and neutralize the threat. However, in most cases, about half the events have concluded prior to law enforcement arrival.

Usually active aggressive behavior does not cease until intervention occurs. Normally, action by law enforcement occurs to stop the attack, the actor is overpowered by those present as in the Gifford incident where bystanders took the shooter to the ground and disarmed him during a magazine change. If the actor is using a firearm he or she will not stop until he or she must reload, or expends available ammunition.

Targets will usually be sites, which have little external security and are classified as "soft targets." Examples include malls, buildings, theaters, restaurants, streets, mass transit, schools, nightclubs, open air shopping areas, pedestrian shopping areas, and the like.

Other targets that begin the transition to hardened targets may include government structures with magnetometers and armed personnel, airport terminals within restricted areas, stadiums protected by armed personnel screening those entering, and similar venues.



The more external security and security measures present, the less likely an attack. However, this does not exclude the actor attacking the entry points that could provide a dense group of persons awaiting screening for entry as has been seen in the Manchester, United Kingdom attack or in low security areas such as

the Tampa Airport attack. The paradoxical issue is that stringent external security at the perimeter creates an inviting target of those awaiting screening to enter a secure, hardened area.

External threats are usually considered criminal threats such as robberies, burglary, or theft. However, some active aggressive behavior, especially outside the educational setting, where almost every attacker has a connection with venue attacked, may be those with minimal or no connection to the entity.

Some active aggressive behavior incidents involving external threats arise from domestic circumstances. These can be particularly dangerous events as the aggressor will likely be committed, expect to die, or be prepared to die, and his or her motivation will likely be driven by the perception of a wrong for which revenge is the only available avenue to resolve the issue. This same issue is faced in many medical facility incidents or domestic relations driven attacks. The aggressor is focused on a single target and will do whatever is needed to attack and kill the target. The motivation for these aggressors will be strong and focused.

Therefore, the methods used in such an incident will depend upon the motivation of the aggressor(s). Incidents involving a person with a mental health issue or revenge issue in the workplace and will likely be solo

"The aggressor is focused on a single target and will do whatever is needed to attack and kill the target. The motivation for these aggressors will be strong and focused."



attacks focused on a discrete locale and group of individuals. Terrorist incidents usually involve more than one person, are well planned, the aggressors are committed, and expect to die. No escape plan is needed. Further, terrorist attacks are more likely to involve IEDs and use military tactics.

Another aspect of active aggressive behavior is the wide availability of information regarding the attacks and tactics used. The Internet is a fertile source of information regarding the tactics used and which tactics were successful. Even countermeasures established by entities to protect personnel and venues may be available via the Internet.

Many consider the first modern mass shooting in the US as the Unruh shooting in 1949. The incident occurred in Camden, New Jersey with 13 killed and three wounded. This is a classic case of a mentally ill person committing mass murder using a handgun.

Active aggressive behavior evokes the image of a heavily armed actor entering a school or business, shooting people randomly. Granted in the United States this is the image, but one should not be lulled into the mindset this is the only method in which many persons can be injured and killed.

A simple Internet search revealed numerous incidents not only outside the US, but also several in the US, in which as many as a dozen persons were injured and several killed with edged weapons such as knives and even incidents in which several individuals were bludgeoned to death with baseball bats, and other objects. Acid attacks of individuals have become common in the United Kingdom and Europe. One attack in South Korea killed more than 100 persons with a flammable liquid that started a fire in a mass transit system. Several similar attacks have occurred in the US against facilities with dense populations being attacked with flammable liquids or incendiary devices killing dozens.

The key is not to focus only upon firearms, but also to consider the use of edged weapons, blunt instruments, incendiary devices, and IEDs. The entity must train its employees to respond to such events and have a post incident recovery plan.

Actions such as establishing a culture of reporting, a behavioral intervention team, searching for "leakage," and recognizing "triggering events" can contribute to the prevention of such internal events. Reporting of behavior of concern by employees, staff, students, faculty, clients, customers, and others is essential. Training is key to the process such that the behaviors that portend aggressive behavior can be recognized and intervention can occur when needed. Leakage is the relating of plans, noting of purchases consistent with violent behavior, behavior consistent with potentially violent acts revealed verbally, by actions, in writings, emails, studies of prior violent events, or even drawings and photographs. Leakage occurs in almost every incident. However, in many instances, such is not recognized, or if recognized, no intervention is undertaken to prevent a violent incident.

#### ACTIVE AGGRESSIVE BEHAVIOR COMMONALITIES

Overview of events with three or more fatalities (FBI Data):

- 98% shooters solitary
- 96% shooters male, almost half white males
- Roughly one incident per month
- 70% in commercial, business, or educational
- 60% over prior to police arrival
- Small number killed a family member prior to event
- About half the shooters committed suicide
- About 15% had shootings in more than one locale
- A very small number have IEDs or incendiary devices
- 70% over in less than five minutes, many completed in two minutes
- Similar risks by day of week

#### LOCATIONS

- Commercial Sites
  - About 70% have relationship, such as a former or current employee:

- Roughly 70% were current employees
- Roughly 30% were just terminated, fired, or suspended
- Shootings in malls, shooters had no relationship to businesses
- Educational Sites
  - Institution of higher education shooters were likely to be:
    - Current student 30%
    - Former student 50%
    - Employee or others 20%
    - Ages 18 62 years
    - Incidents in schools K-12
      - High School 50%
      - Middle School 30%
      - Others 20%
      - A small number of events occurred in school board meetings
- Open Space Shootings
  - Most involved the shooter in a vehicle at some point
  - Large portion of the shooters engaged by police with gunfire
- Military and government sites
  - Large number of officers killed or wounded responding to these events
  - Shooters age from 23 63
- Houses of worship
  - Few but lethal results
  - Shooters age from 24 69
  - Most commit suicide
  - Motives hard to ascertain
- Healthcare Sites
  - Few but lethal in results
  - Shooters age 38-51
  - Committed to take down specific target(s)
  - Well planned
  - Distinct motive
- Domestic Incidents
  - About 10% of the events involved a targeted female, from a current or prior relationship
  - In the above events, many bystanders or those present were shot even if the target was not present
  - Committed and motivated offender
  - Revenge motive
- Events Terminated
  - 10% of the events were ended by unarmed citizens
  - 2% were ended by off duty law enforcement officers with gunfire

- 4% were ended by armed citizens with gunfire
- 28% of shooters exchanged gunfire with police
- High casualty rate among law enforcement with about half the incidents in progress with police arrival result in law enforcement injury or death
- Several armed citizens shot and killed by actors

#### HIGH SCHOOL SHOOTING OVERVIEW

- 33% of casualties fatal (less than typical shootings which are roughly 50% of those injured are fatally injured)
- Ages of shooter 14 to 19
- 86% current students
- 7% former students
- Many disarmed or stopped by principal, faculty, staff, or students

#### **EVENTS PLANNED**

Many believe a person "snaps" and commits the violent act, but the events are planned, usually over weeks or months. The behavior is not spontaneous.

- Violent behavior or potential for such is rarely new to the actor
- Usually patterns of negative thinking, feeling, and behavior are part of the history of behavior of the actor.
- Triggers intensify the negative elements (some negative event that occurs or a failure is perceived by the actor)
  - Disciplinary action, termination, change of job duties, poor job evaluation
  - Poor grades in educational setting
  - In educational settings, failing a test, tenure denied, rejected thesis are examples
  - Not promoted at work or other work-related failure perceived by the actor
- Planning for violent reaction usually takes place (usually weeks, some months, rarely years)
- Leakage, during this time, signals, flags, threats or implied threats via social media, contemplation of suicide, morbid themes in social media, study of other violent events, and even though threats exist, the threats are rarely seen as serious or are not reported: these may include verbal or written threats (implied threats), particular in social media or verbal threats, conditional

threats "If I am not promoted, people will suffer."

- Actor becomes isolated and may withdraw socially
- Actor may become involved in morbid themes, discuss suicide
- Some actors described as exhibiting "fester ing anger"
- Some actors begin research on violent events
- Some actors acquire weapons and practice with them
- Some actors begin to disburse cherished personal items

#### **STAGES**

- Fantasy\* (usually has a relationship with target, roughly 60% of victims or sites know the actor or have some connection with the actor such as a former employee)
- Planning\* (comfortable with weapons use, prepare for extended operations with spare ammunition and firearms)
- Preparation\* (usually practice with weapons, some conduct "dry runs")
- Approach (must depend upon infrastructure and security assets to stop the actor)
- Implementation (must depend on security or law enforcement response, self-rescue should be the priority)
- (\*Leakage, opportunity to prevent the attack)

#### **ENVIRONMENT**

Many actors experienced or exhibited:

- Negative situations are present with the actor
  - Personal
  - Social
  - Political
  - Religious: many have conflicted religious beliefs
  - Philosophical
  - Many contemplated or attempted suicide
  - Some taking psychotropic drugs
  - Some undergoing mental health counseling
  - Intense feelings
  - Anger
    - Hostility
  - Retaliation
- Vengeance
- Thought process
  - "Change is not possible in peaceful way"
  - "Violence is necessary"

- "Violence is justified"
- Planning
  - Weeks or months, rarely years
  - Actors exhibited prior violent behavior or made threats of violence in most incidents
  - Firearms likely weapon to be used
  - May come prepared for extended operations with multiple firearms and ammunition
  - Handguns common
  - Long guns second choice
  - Vehicles, edged weapons, blunt instruments, are other weapons used
  - Very small number use IEDs or incendiary devices

### IF THE ACTOR'S BEHAVIOR NOT BASED UPON IDEOLOGICAL ISSUES:

- The behavior is a hostile reaction to some frustration, loss, failure, or damage to ego
- Actors are self-centered, some described as "isolated loners"
- Actor's desire for vengeance "justifies violence"
- Seeks psychological reward through terrorizing others, sees this as "pay back"
- Thrilled by power of firearms, bombs, killing, and chaos
- Magnicide, may use this to further their ego, fame, and recognition, even though the actor intends to die in the incident

#### PLANNING AND DEMEANOR

- Extra ammunition carried, multiple firearms, or weapons carried/used
- Actor often exhibits cold, calm, and expressionless appearance during the incident
- Mental rehearsals, practice with weapon(s) prepare the actor
- Avoidance and escape plans almost non-existent in many incidents
- Some actors practiced at firearm ranges prior to shooting
- Some practiced shooting targets on the ground where victims would hide under desks or tables
- Some brought chains and locks to prevent escape of targets or entry by law enforcement

#### CONCLUSION

The message from this data is that active aggressive behavior incidents are over rapidly and that response by those present onsite are critical to reducing casualties. The incident will produce several casualties. The average number of fatalities according to FBI data is three with roughly three injured. Response following the incident termination can also prevent death from hemorrhage and methods to expedite treatment by those present are essential. Onsite medical equipment and training is another essential facet as is interfacing with first responders and leadership during a crisis. Bleeding control using combat type dressings and tourniquets is essential.

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Colonel Jim Smith has more than 40 years public safety experience with a master's degree in safety from the University of Southern California. He is the public safety director for an Alabama community. Smith teaches terrorism, emergency management, and counter terrorism classes for the University of Phoenix and Troy University. Smith has published five textbooks regarding WMD, emergency management, crisis management, and tactical medicine.

ORGANIZATIONS	DESCRIPTION
MalwareTech Botnet Tracker http://www.malwaretech.com/	Tracks active botnets by looking at their type, geographic distribution, and unique IPs on a live map that displays every incident and type that has occurred in the past five minutes.
Palo Alto Software https://www.paloaltonetworks.com/	Software prevention to reduce cybersecurity risk to a manageable degree.
Phishtank https://www.phishtank.com/	Current, community-based tracking of domains connected to phishing attacks along with downloadable databases.
SysAdmin, Audit, Network and Security (SANS) Institute Internet Storm Center https://www.sans.org/	Offers data and analysis on future threat hunting trends and malware threats.
WHO HANDLES THE HACKERS — GOVERNMENTdefer power gover gover tations that will be the first line of	nse against an attack on the er grid, there are numerous ernment organizations that do ame. Daily, they handle the

ORGANIZATIONS	DESCRIPTION
Department of Homeland Security (DHS) AIS (Automated Indicator Sharing) https://www.dhs.gov/ais	Automated indicator sharing to help government and private sector entities exchange info on threat indicators.
Electricity Subsector Coordinating Council (ESCC) https://www.energy.gov/oe/ activities/cybersecurity -critical-energy-infrastructure	The ESCC serves as the principal liaison between the federal government and the electric power sector, with the mission of coordinating efforts to prepare for national-level incidents or threats to critical infrastructure.
Supervisory Control and Data Acquisition Systems (SCADA) https://energy.gov/oe/downloads/21- steps-improve-cyber-security-scada- networks	Software used by manufacturers, nuclear plant operators and pipeline operators to monitor and diagnose variables and unexpected problems, such as a hacker attack.

ORGANIZATIONS	DESCRIPTION
The National Cybersecurity and Communications Integration Center (NCCIC) https://www.dhs.gov/national cybersecurity-and- communications-integration-center	Part of the Department of Homeland Security. Acts as the central command point where the government collects and analyzes data on the impact of any hacker attack on the power grid.
The National Security Agency (NSA) https://www.nsa.gov/what-we-do/ cybersecurity/index.shtml	Part of the US Department of Defense, under the authority of the Director of National Intelligence that protects U.S. communi- cations networks and IT systems.
The North American Electric Reliability Corporation (NERC) https://www.ferc.gov/industries/ electric/indus-act/reliability/ cybersecurity.asp	Regulatory authority that assures the reliability and security of the bulk power system in North America.
US House Permanent Select Committee on Intelligence (HPSCI) https://intelligence.house. gov/cyber/	Cyber criminals, often supported by hostile governments, are increasing their attacks on U.S. networks and American businesses. The HPSCI acts to mitigate this growing problem.
US Security and Exchanges Commission (SEC) https://www.sec.gov/ spotlight cybersecurity	Identifies and manages cybersecurity risks and ensures that market participants — including issuers, intermediaries, investors and government authorities.
National Institute of Science and Technology (NIST) https://www.nist.gov/ topics/ cybersecurity	Practical, innovative security technologies and methodologies that enhance the country's ability to address current and future computer and information security.

F ortunately, everyday there are highly gifted, very creative, and extremely skilled cybersecurity and engineering experts manning the protective firewalls of the cloud and network-based data systems in this nation. I know because I've worked with them.

They are well aware of the chal-

lenge. They know their duty. They are quiet professionals as important as the Special Forces teams we depend on every day.

In the way the military Special Forces keep our people, territory and infrastructure safe from foreign enemies, the cyber Special Forces keep us safe from as great a threat, up to and including, a power grid attack.

Going forward, they deserve the same level of respect, resources and support.

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Devastating Natural Disasters of 2017

## A GREAT MOTIVATION FOR BEING PREPARED

#### By TACDA Staff

oth the rate and intensity of natural disasters around the world is escalating at an alarming rate. The following is a quick review of just some of the devastating natural disasters in 2017. Remember as you read the list that these are real people. Each number in the death toll left loved ones behind who continue to mourn. Every house that was destroyed belonged to a family or individual who is now homeless. Life is a grand adventure and there is reason to hope and find the good in everything, but the pain and suffering is very real.

- In California, wildfires destroyed over one thousand structures and forced the evacuation of almost 100,000 people. The cost of the wild fires is a whopping \$180 billion.
- The Mount Agung volcano erupted in Bali, Indonesia

forcing the evacuation of 100,000.

- Ten full-fledged hurricanes, formed over the Atlantic, made landfall in 2017, devastating numerous cities with high winds and heavy flooding.
  - Hurricane Harvey killed 82 and cost \$180 billion.
  - Irma killed 61 with damages totaling \$200 billion.
  - Maria killed between 55 and 500 people (depending on the reporting source), caused damages totaling \$95 billion and left thousands of victims without power, food and water for an extended period of time.
- Mexico was hit by a magnatude 7.1 earthquake and another 8.2 within just a few weeks. The death toll rose to over 300 and left 2.5 million people in need of aid. An earthquake in Iran killed 530 and injured thousands.
- Heavy rains, flooding and landslides wreaked devastation in many countries.
  - South Asian Monsoon caused flooding in Bangladesh, India and Nepal killing over 1,200. It has been labeled the worst regional humanitarian crisis in years affecting more than 41 million people with nearly 2,000 relief camps providing urgent shelter.
  - Colombian mudslide killed 300.
  - Severe rains in Zimbabwe killed 117 and left thousands homeless.
  - Flooding in China has left 144 dead and displaced one million people

destroying 31,000 homes.

- Peru floods resulted in a death toll of 150 and affected over one million with a restoration price tag of over \$9 billion.
- Avalanches in Afghanistan and Pakistan caused from heavy snow fall took 156 lives.
- Democratic Republic of Congo flooding and land slides killed 174 and left 280 orphans.
- Sri Lanka suffered 213 deaths from flooding and landslides. An additional 250 people died after the initial disaster from dengue fever due to lack of safe, clean drinking water and shelter.
- Drought in Eastern and Southern Africa have put 38 million people at risk of not

having enough food to survive.

N atural disasters are only a part of the threat that we face on a daily basis. The news is flooded with reports of the threat of nuclear war, terrorism and economic instability. The world we live in is fraught with potentially dangerous hazards.

There is no need to live in fear. We may not be able to control these

risks, but we can take steps to mitigate the effect they may have on our family. Preparing now can significantly reduce the risk of loss of both life and property. Take a few minutes to carefully evaluate your personal risk factors. Then explore reasonable steps to mitigate those risks. Set realistic goals and get to work.

The Journal of Civil Defense is a fantastic resource packed with articles on every subject that you might need as you prepare. Use it to help guide you as you work to mitigate the risks. We are honored to be able to provide it to you. Thank you for your continued support!





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