

Actionable intelligence to live a Free & Inspired Life



The Solari Report

May 30, 2023

Solution Series: Mastering Field and Radio Tactics with NC Scout

Brought to you by Solari and Corey's Digs



James White: Hi, this is James White once again for the *Solution Series*, brought to you by *Solari.com* and *CoreysDigs.com*. I am joined, as always, by my wonderful cohost, Corey Lynn.

Corey, it is always great to be here with you.

Corey Lynn: It's good to be here. I'm looking forward to this one.

White: This will be a good one. This is going to be a power-packed show, and we are going to learn a great deal.

Our guest today on the *Solution Series* podcast is NC Scout. It's the pseudonym of a former infantry scout and sergeant and one of the Army's best reconnaissance units. He has combat tours in both Iraq and Afghanistan. He teaches a series of courses focusing on small unit skills that are rarely, if ever, taught anywhere else in the prepping and survival field, including his RTO course, which focuses on small unit communications.

In his free time he is an avid hunter, bush-crafter, writer, long-range shooter, prepper, amateur radio operator, and Libertarian activist. He can also be contacted at brushbeater@2noda.com or via his blog at [brushbeater@wordpress.com](http://brushbeater.wordpress.com).

Matt 'NC Scout', thank you so much for joining us here on the *Solution Series*.

NC Scout: It's great to be here!

White: It's great to have you. We originally wanted to talk to you about Baofeng radios. That is one of the things that we are going to discuss. We've talked about that previously with a guest who you know, John Jacob Schmidt. We had him on a long time ago. He is a great communications person. He mentioned the Baofeng radio while he was here, but he talked about many things, but he didn't elaborate on the Baofeng; he just brushed over it.

You bring a tremendous skillset here to this interview. I didn't realize that you were an Amazon number one bestselling author until we talked before the show. Your books look great. I can't wait to own them all, but I didn't realize

you had such a tremendous amount of success with them, which is fantastic. You have a wide variety and depth of knowledge, and we are glad to have you here today. Matt, thank you again for joining us.

Let's start with the macro – the big picture – and then maybe we will drill down into the individual things. I know we want to talk about field medical, which I know is one of your specialties, as well as the Baofeng radio that we talked about, and maybe some long-range surveillance. There is a cornucopia of things.

Thank you again for being here. Where would you like to start? What is one of the most important things that we can get across to the people?

NC Scout: We'll take it from the top. The thing that contemporarily people know me best for is *The Guerrilla's Guide to the Baofeng Radio*, which is a number one bestseller on Amazon. It's been in Amazon's top 1,000 books on and off since its publishing date of December 2, 2022.

I was taken aback by the response this community has given to the book, with having just under 400 reviews now for a 4.7 rating. That is a very big honor and a big validation as well. The biggest thing is that exposure is allowing me to do things for this community and to give back to this community in ways that previously were not possible.

In the book, I want to break down a few topics. I wrote the book with the assumption that the reader knows nothing prior to opening it up: You've never touched a radio, you don't know what any of these things are, and you don't know what this thing does. We literally take it from the foundation level all the way to very, very complex tasks. It demystifies a number of misconceptions that exist about the topic of communications in general.

The way I break these down into three mutually exclusive concepts – a Venn diagram, if you will – where you have sustainment level communications, and you identify these as anything that sustains quality of life. This is emergency communications, which are conventional phones, cell phones, and law enforcement emergency service communications. All these fall under that umbrella of sustainment communications, and I list the requirements in the book and what those are and how the Baofeng radio in particular can suit those

needs.

I think that is where people in the prepping and survival community come to communications as a topic; that is actually what they are looking for. If they are not quite sure what they are looking for and they don't know how to define it, I think that demystifies it quite a bit.

The next level is tactical communications. Tactical communications are the small unit tactics-the things that drive many of the gear purchases and firearms and the more 'cool guy' end of this industry that we have. So, how is the Baofeng utilized in a tactical environment?

It does have some drawbacks that need to be addressed. The first thing is that it is an analog radio. Whatever is being transmitted over it, whatever you say, unless you physically encrypt that message yourself on your end, it is all over the air and is able to be intercepted.

White: Let's pause for a moment if we may. Let's assume (audience) they didn't see or read the previous podcast with John Jacob Schmidt. Let's give them a bit of an idea what the Baofeng radios are. Then tell us the difference between an analog and a digital signal.

NC Scout: With the Baofeng radio, it is the most prolific radio in the world. At this point, there are millions and millions of them out there. It's a hot-selling item no matter where you go. We've seen them utilized in Ukraine. We've seen them all over the horn of Africa. We saw early versions of them, which weren't called Baofengs; we called them Icoms when I was operating in Afghanistan, which were there. I have sensitive site exploitation photos of them being utilized. They were everywhere.

Essentially, the most inexpensive of these radios is around \$20, so people buy them – and for a good reason. Are you getting the best product in the world for \$20? No, it would be absurd to think that you would be. However, there is plenty of capability that is offered. They operate at a very high frequency and ultra-high frequency ranges, which, specific to the Baofeng, is 136-174 megahertz, and add 400-470 megahertz. What does that do for us?

I have given you some numbers. What does that do for us?: It enables us to have communications – both licensed with amateur radio and some unlicensed options like MURS (multi-use radio service) on VHF and FRS (family radio service), which is unlicensed, and general mobile radio service, which is licensed, but you can have many people under one umbrella of the license, and that is in UHF.

VHF radio typically functions much better in rural environments, and UHF (ultra-high frequency) is very good in urban environments. I explain that in the book, and I give a bit of my antenna theory and a little RF theory of why propagation is what it is. I like to use the analogy of a light because radio waves travel at the speed of light.

I'm a visual learner myself. If I can visualize something, then I can understand what it is and break that down into layman's terms. We go into that in-depth in the book. The antenna chapter has many diagrams in it, and it is very easy to follow. You can build your own antennas in no time.

Going back to the Baofeng radio, it is a small handheld device. As a matter of fact, I have one of the higher-end ones here, which is an AR-152. It gives us plenty of capability in our hands for not a large amount of money. In the book, I take everyone through how to improvise the antennas and how to create a very inexpensive field station where you only have a few dollars and you are building it out of fence wire and insulators and things you can get from Tractor Supply or Rural King or Murdoch's supply stores.

You can go there and get enough antenna-making material from the electric fence supplies to supply an entire detachment of people. You can create communications capability utilizing Baofengs and improvising antennas.

For example, in Montana you have Bitterroot Valley. You can create communications up and down the Bitterroot Valley, and I know you can because we've done it. I did a class in Hamilton a few years back, and we did it.

The students built antennas in class in the Radio Telephone Operators course, and we had consistent communications from Hamilton to Missoula. We probably could have gone further than that if need be, but we didn't because we

didn't have anybody to talk to towards Eureka and further up there, so we couldn't make it happen.

It's really incredible what you can do with not a large amount of money.

White: Is Baofeng a two-way communications radio?

NC Scout: Yes, absolutely.

White: I wanted to clarify that for people. Sometimes the scanners that will pick up the police radio frequencies are only a one-way; they only receive the police information. You are saying this is a communication device that you tune into?

NC Scout: It's a transceiver; it transmits as well as receives.

So, going back to your question regarding analog versus digital, I would break it down like this: An analog radio takes whatever sound is being received into the microphone and transmits it right back out. So, it takes it in, and puts it right back out – whatever it is. It is what we would call 'being transmitted in the clear' or 'being transmitted clear text'.

When I was in the military, we would have 'plain text', meaning that we were not using any built-in encryption.

When we say 'digital', it is essentially using a digital protocol to take that sound and turn it into data bits and transmit it over the air. The most common one in the two-way radio world right now is DMR (digital mobile radio). Those units are significantly more expensive. So, you will see significantly higher entry-level costs as well as much more capability in terms of using them for tactical communications. There is the capability to, not just encode, but also to encrypt in some cases what you are transmitting over it.

With the analog Baofeng radio, one of the neat things about it is the broad number of accessories that it has. One of those accessories is an audio patch cable that you can utilize to plug into any device you may have. I like android-based devices for many reasons. They are open source, meaning that I can load

what I want onto them. Utilizing a tablet and a free program called 'AndFlmsg-1.2.0, which is the Android's version of FLDIGI, which is a digital text traffic protocol. It has over 160 different digital modes that are built into it.

I can use that to plug into the audio jack or the microphone jack of the radio on the side and have digital communications. I can create my own tactical chat network.

In the book, I cover that in detail on how to set it up, how to install it on your device, and where to get it; it's 100% free.

I am from the premise that you may be working in an austere environment or you may be working in an environment where we have Walmart or Dollar General and all the modern conveniences, but tomorrow we may not have that. Tomorrow we may wake up and it's Bakhmut, Ukraine or it's Afghanistan. We don't know; you don't know what tomorrow has promised. It could be natural disasters, or it could be manmade disasters. We don't know.

Lynn: I want to ask you a question quickly on what you just said because I think that is important with the tablet and creating the chat environment. Depending on your setup, you will have limitations on distance with your Baofengs. So, when you set it up on the tablet and create the chat, what kind of distance does that give you to be able to communicate with people on what is going on in the world?

NC Scout: That can be a complex question. Let's take it down to be simple.

The stock antenna that comes with your Baofeng – your standard UV5R – is usually something that most people throw away because it doesn't perform well. They will upgrade to an aftermarket antenna. There are many of those on the market – quantities of them. There are some very good ones out there. There are some outstanding ones out there. Some are okay, and then some are 'snake oil'.

A very good one is called a 'gooseneck' antenna. It's made by a company called HYS. If you are looking for an American-made option, Smiley antennas from San Jose, California, build some excellent ones as well. A big 'shout-out' to

them.

With an upgraded antenna on the two-way radio bodies, it all depends on the terrain that you are in and it depends on your power output as well. It also depends on the height above the ground. This is what we refer to as a line of sight radio, meaning the higher the line of sight there is, the more distance and range you will get. So, you will get much more the further up on a mountaintop you are than you would down in a valley somewhere.

With that said, breaking it down simple for the 'laity', you can expect, on average, three miles. With a stock antenna, when you are outdoors and are on a mountainside, you can expect about three miles utilizing VHF specifically. With UHF, you can cut that down by a third, generally speaking. That's on high power output.

With the Baofeng UV5R, that would be four watts. On the AR152, that would be ten watts. If you build improvised antennas – like we do in class, and going in depth into the book, and detailed instructions on how to build those, you connect the coaxial cable from the antenna and remove the stock antenna (SMA connector) and screw the coax into the top-there are adapters that you can use – you can attach that coaxial cable to your wire antenna that you build, and you can get much further with that.

The last RTO course that I taught in Wyoming, which was last June, we hit 35 miles from one mountain range that was just east of Rock Springs. There is a mountain range by the airport. We transmitted from there to the next mountain range that was in the distance, which was approximately 35 miles.

One of the people who was in class had a hunting lease there. We put out two teams, and had a digital network from point to point. So, we were able to take the digital traffic that we were transmitting over An MFL message, point to point. We were having a whole tactical chat and communication that was all digital.

White: And it was all secure, right?

NC Scout: Yes.

White: What type of encryption was it? Was it 120-bit encryption? Was it 256?

NC Scout: Digital encryption is one type of encryption. There are two broad concepts; there is digital encryption and physical encryption. Digital encryption is when you are relying on the protocol itself to encrypt the message. It is basically doing the work for you.

There is a level of trust that goes into that; you are trusting that there are no 'back doors' in the program. You are trusting that it is actually encrypting because you have set all the settings properly, and that nobody has a back door or a key into it.

In an austere environment when we are relying too heavily on digital encryption, it is convenient to us, but it also presents a hazard to us and it will present a hazard if we don't do our due diligence to understand that.

The other issue that you will run into when talking about encryption is on amateur radio encryption which is a sensitive topic. We need to know how to do it for sure, but it's kind of a sensitive topic with many hams out there. I am an amateur extra; I've been a ham for a long time now.

That is a topic onto itself, so let's talk physical encryption. There are a number of ways to physically encrypt a message. So, you can take a message over digital protocol that would otherwise be clear. An MFL message has over 160 different digital protocols to it. It does not allow you to decipher or decode any of the other digital protocols if you don't have that one set in it.

Basically, if I am sending you a message in 44, which is one of the digital protocols, and your receiver on your end is set to NT-63, for example, you are not going to decode my message. We have that prior establishment. So that is a way of security through obscurity.

Let's talk encryption: In the *Guerrilla's Guide to the Baofeng*, I have two forms of physical encryption that are described in detail. This falls in what I categorize as 'strategic' or 'clandestine' communications. Let's say that we've created an underground; we are part of a guerrilla underground for whatever reason.

White: Okay, we are part of the guerrilla underground. I'm with you.

NC Scout: Let's do it!

My friend, Glen Tate, *299 Days*, and with his regulars and my close friend, Chris Weatherman, *Angry American*, who discusses that in his *Going Home* series, and another close friend, John Jacob Schmidt and his book, *Patriots*: The list goes on and on. Strategic level would be the communications that we use to coordinate our activities. We're not talking to one another in real time. I might go online once a week when we have our communications windows. I know that your radio is on, and I send you a message. You may or may not send an immediate response. We do this all the time.

I use the example in class about *Crimson Tide*. *Crimson Tide* is a classic submarine film. It's a great movie. One of the great plot devices of the movie is that the receiver (their radio) burned up, and they only received part of the emergency reaction message. So, when that happened, they only got part of the one-time EAM message. So, they couldn't decrypt the rest of it, and they didn't know if their orders were to fire or to be prepared to fire. They didn't know, so it created this whole nightmare scenario on an SSBN.

So, that comes through physical encryption. There are two methods to do it, which I combine. There are several other ways to do this, but the two most robust ones are: use trigrams, and I include those in the book. In *Guerrilla's Guide to Baofeng Radio*, those trigrams are listed in the back. You can take a very long message and compress it utilizing groups of three letters.

White: You will have to tell us what a trigram is. Is it just a three-letter message?

NC Scout: Correct.

White: I've never heard of that before.

NC Scout: This is a very old method of encryption that the predecessor to the NSA, the Army Security Agency, came up with a very long time ago. I have one

of the training pads that I included in *The Guerrilla's Guide to the Baofeng Radio*, so it's a master list, if you will, that is in there.

This is so that people can practice encrypting their messages and sending them over the air. Also, for brevity's sake, you can cut it down. This is a sample list. So, you would want to create your own, and there are a number of ways to do that.

When students come to class, I hand them a master list that is on an Excel spreadsheet. I don't use Microsoft products, so it's on an OpenOffice stock document.

White: Corey doesn't use Microsoft products either; she's an OpenOffice person as well.

Lynn: Absolutely.

NC Scout: It's spyware; they are taking your data.

That way, you are creating a list that is inherently mostly secure. Statistically, if you had a crypt analysis and utilized the same pad enough times, you would end up breaking it.

There are some very good crypt analysts out there who do this for a living, but that is a whole other conversation.

Let's talk about the most secure: How do we add another layer to this? Using one-time pad (OTP); one-time pad is an encryption, also known as a 'Vernam cipher'. When you utilize the key that is randomly generated, it is all dependent upon random generation of numbers. It is truly unbreakable; it is mathematically unbreakable, and you use it one time.

I go into exactly how to do that in the book, utilizing many examples. Before you even hit 'transmit' on a message, you type your message in or write it out, then you encrypt it with the trigrams, and then you encrypt it again with the one-time pad, and that is what you send out. So, you are sending out essentially a burst of data.

The first way that signals intelligence is collecting on you is simply by identifying you; they have to pick up your traffic. How do they do that?

The less time you are on the air, they can't pick up what is not transmitted. So, the less amount of time you are on the air, the better. You can cut your transmission time of minutes down to seconds.

One of the fastest modes for sending data is PSK31. With a burst of random numbers over PSK31, you can send a fairly long message in less than eight seconds. You receive it, and you begin that decrypting and decoding process.

So, they would have to know, first, where and when to listen for you, they would have to know which digital protocol you are in, and then they would have to have the keys – not just one but two keys. There may be more secure ways to do it, but I think that is quite robust. Essentially, for a large number of people, we are talking about taking a \$20 radio and adding a few more components to it like a \$50 tablet. You can go to Walmart and get their brand or an android tablet for less than \$50 these days – because that is what people bring to class.

We are talking about building digital communications capability for less than \$100 per person. When you are talking about financial times getting tough and people having to tighten their belt and trying to 'pinch a penny to get a dime' at the end of the month, you say, "We can build this capability for less than \$100," now your ears perk up. Not only that, but this equipment is disposable.

I always think about it like this: When I was in Afghanistan, we were hunting the Taliban. Now that we are in America, I don't have 'dot.gov' behind me anymore; I don't have the army behind me and the logistics supply line and the Department of Defense. I don't have all of that. All I have is what I can source and what I can budget for myself and what I supply everybody else in my working environment with. That's all you have.

Then it becomes, "How do I supply Timothy down the street? He's not a trigger-puller. He's not somebody who I would be kicking doors in with, but the man is a mechanic and he knows how to source things and knows how to manage a cache of goods. He is a 'supply guy' for us. I need to be able to

communicate with him securely. I need to be able to give him a heads up, “Hey, you need to give safe harbor to a couple of guerrilla fighters who are going to be coming through here, as part of that larger underground network.” This is how you do it.

I can justify spending \$100 to get you equipped, or you can spend \$100 and I can teach you how to get equipped. You are creating capability where otherwise there would be none. That is kind of the dramatic end of it.

Think about it like this, too: Many of these digital protocols are used for relief communications in disaster preparedness. That is another one. I am in North Carolina, and there are hurricanes coming through here; fall is hurricane season. Fall has hurricanes coming through and taking out communications; I can create digital communications.

White: We talked about that with John Jacob Schmidt. Some of the things that he described were amazing.

All of those finer points that you are talking about can be found in your manual. Some of these things, of course, we are only touching on with this podcast. I would suggest for those of you who are tuning in or reading this, look at the data sheet where we will have all of the links.

Let’s switch gears: One of the other things you have a plethora of information on is the field medical. I don’t think people realize that if we ever get into a situation where lead starts ‘slinging back and forth’, somebody may be shot. I don’t know if you’ve ever been shot. I’ve never been shot, but you probably know people who have been gunshot. It’s a terribly traumatic thing to be shot by a high-caliber, high-powered rifle. Certainly, it can do a tremendous amount of damage. You have to be able to take care of that right away and take care of other things like dysentery or a variety of other things like sunburns.

NC Scout: That point is a big one. I think that is actually a very good starting point. We get so wound up in the dramatic things – gunfights and IVs.

I’ve never been shot; I’ve been shot at plenty of times, but I’ve never been shot. I’ve seen plenty of people get shot. I’ve seen many gunfights, and I’ve seen the

results of gunfights – both in the deployed world and unfortunately, in the civilian world as well. There is no good place to get shot. That’s a Hollywood myth.

Here is the thing: Usually the entrance wound of a gunshot is the most superficial of it all. That is the one that is simple. You can close up the entrance wound, but with a 5.56mm, you are talking about a small entrance wound. Usually in my experience, they make a large exit wound. A 77-grain open tip match leaves a rather nasty exit wound. A 7.62x39mm leaves a huge exit wound, especially the M-67 rounds that are boat tailed and some of the other varieties that we encountered overseas. A 7.62x51mm 308 Winchester leaves a hideous gunshot wound.

Pistol calibers, whether a 9mm or a 45mm, I’ve seen some quite heinous 9mm wounds from PDX rounds (personal defense rounds).

White: You have to get at it rather fast, right? If someone has a gunshot wound, you have to be right on that.

NC Scout: We focus on the tactical trauma quite a bit because, if you are expecting to go into combat, you are dressed for business. In my ‘Fighting Carbine’ course and my ‘Fighting Handgun’ course, I bring this up. You’re there to do ‘business’, and ‘business’ will be done to you, too. You have to expect that it goes two ways; expect to get shot.

The primary intervention there is that we use the acronym MARCH (massive bleeding, airway, respiration, circulation, head trauma and hypothermia). That has been the protocol since at least 2008, and it may even go back before then. 2008 was the instrumental year when I began hearing it.

I’ve done live tissue training where they shot pigs, and we had to treat them and do all the different things to them.

Then there are the IFAKs (individual first-aid kits). Building a basic IFAK is as simple as having a tourniquet, and you should get one from North American Rescue. North American Rescue makes products that are utilized by everyone. Every ‘trigger puller’ who is out there uses North American Rescue.

A tourniquet is your primary intervention for massive bleeding.

White: It's a life and death instrument.

NC Scout: Right. I've used many tourniquets. Unfortunately, I've used them on gunshot wounds, and I've used them for extremities. I've used them on amputations of extremities. That is the primary intervention for tension in the thorax or gunshot wounds to the chest. There are other protocols that need to be addressed also.

Controlling a massive hemorrhage or keeping the airway open (closing one to stop the bleeding and keeping the airway open with a nasopharyngeal airway, which is a tube that goes into the nose and passes the septum into the throat to keep a consistent airway), if you do those two things when you are getting a casualty to the next higher-tiered care, they have a much higher chance of making it provided that the higher tier of care knows what they are doing.

White: That is what field medical actually is; it's almost like a triage: It's stabilizing the person in the field and getting them stable so they can be helicoptered, driven, or transported out.

NC Scout: It's primary intervention on massive hemorrhaging and airways.

The other thing I 'hammer home' as it was taught to me is hypothermia and how quick the body goes into shock. I have been in shock twice from injuries. I know that, essentially, what is happening physiologically is your circulation is shutting off. When you go into shock, many victims of shock go into a catatonic state. They are at high risk for hypothermia when that happens.

So, having a space blanket, which is basically an aluminum foil blanket, is key. I really like the GI Casualty blankets that are grommited because it's a multi-use item. You can use that as a thermal barrier to camouflage a hot site from thermal as well, which is a whole other conversation.

I've slept outside in the wintertime. I did a class in New Jersey where I slept outdoors with one of those and a jungle blanket. We had frost that night and a

little snow, and I was perfectly comfortable sleeping on the ground like that.

White: I have about a dozen of those. I bought a case of the thermal blankets.

NC Scout: It has a 100% R-value. You want to have one of those in an IFAK to keep a casualty warm.

The individual first-aid kit is not for treating your buddies; it's for treating you. It's for your buddies to treat you specifically. That is something people need to understand.

White: So, in your individual first-aid kit, if you were diabetic, you would have insulin in it. So, you have to keep those on your person. That is in case you get knocked out or knocked unconscious. Then they could pull your medical kit off you, and they could utilize it with all the specifications or whatever specific things you need. It could be insulin or other considerations. Is that accurate?

NC Scout: They can treat you. In a civilian context, it is items that you may need. There is sustainment, quality of life, all the way up to emergency items. IFAKs mean different things to different people. I come from the tactical concept of the intervention from ID blasts and gunshots.

Of course, when you travel, people have different considerations for IFAKs. Insulin is one of the medications.

That leads me to where I wanted to go with this. We focus on the tactical side of things a great deal, and we somewhat ignore the mundane.

One of the interesting things between my deployments to Iraq and my deployments to Afghanistan is that the medical issues you see in the third world we are beginning to see here in the United States. Much of the things we eradicated (a lot of the diseases) are coming back.

White: Are you talking about leprosy and that type of thing?

NC Scout: Leprosy, polio, and dysentery are back. Dysentery was not a thing when I was growing up. You might get diarrhea or something from the flu, but

it wasn't until my first tour in Iraq that I figured out quickly what dysentery was. Dysentery is a whole 'other animal'. It's uncontrollable diarrhea to the point that you're not holding down any food or any liquids. So, I began to understand quite quickly, as a young man in my early 20's, why people die from dysentery. It's one of the major killers around the world.

So dysentery, West Nile, and things like that. Here in the southeast, every house had screens on the windows and screen doors. There was a reason for that; it was there to protect us from mosquitos; it was a mosquito barrier.

Modern home construction has gotten away from that, so we are seeing a rise in mosquito-borne illnesses that we haven't see for a while. Tick-borne illnesses are on the rise as well; they are coming back.

When we get into talking about a more austere environment, we will run into these things due to a lack of sanitation more than anything else. That is going to be much more common – more than any tactical concept of the trigger-pulling and people getting shot and blown up and the combat-related things. There will be many more instances of people dying from lack of sanitation.

How do you get clean water? It's a funny thing that in modern America – in most places – we don't think about this because we're never truly thirsty; we're not dying of thirst.

Your brain changes; you have a change of attitude when you go without water and are truly thirsty. Depending on one's hydration level, the survival rule of three says that three hours without shelter, three days without water, three weeks without food, etc. Realistically, it's more like 18 hours without water and you begin to exhibit severe signs of dehydration which can be shock-inducing. Your whole mentality changes to, "I need to get water, and I'm going to start thinking about drinking things that are really not healthy for me, like stagnant pools of water and stuff that I can get sick from."

White: Can't you get tablets that you put in water that almost kills all the bad things?

NC Scout: Absolutely. You can use Chlor-Floc. You can do it with pool

chlorine in small amounts. You can do it with a couple of drops of bleach – there is a formula for this. You can do all that, but the thing is that without prior knowledge of how to do this, it can be dangerous. And you still want to boil your water. If you are getting it from a questionable source, you need to boil it. Period. This is something that I just brought up recently with some students who were in one of my civilian tactics courses.

If you are sourcing water in the southeastern United States where there is a lot of agriculture in rural areas, you don't necessarily know what is in that water source. It looks clean. There may not be any bacteria in it, and there may not be any giardia or any of that, but there might be chemicals in there that are part of agriculture runoff.

White: Does boiling get rid of the chemicals?

NC Scout: For sustainment use I definitely recommend having a big Berkey water filter. That is going to get rid of almost all of those particulates. I think it gets rid of 99.9% of them or something. It's been independently tested, and big Berkey is what I personally use. I don't have any affiliation with them, but I will say that is what I use.

White: It's a great product.

NC Scout: I can only tell you what I do, and that, above all else, works.

We get into the tactical side of the 'house' a lot, but sustainment level is so important. I'm out doing many things; I use a chainsaw a lot; I'm on a tractor; I do agricultural implements and I'm working around animals. You're going to get busted up, and you're going to get injured; things will happen. You have to learn how to prevent infection.

There are natural methods of preventing infection. There may come a day when we don't have access to antibiotics in the way we do now. I've had doctors come here and teach classes for me, and they have done rotations with Doctors Without Borders. That has been an 'eye-opener' for me to gain their experience on Central and South America that they 'bring to the table'. They don't bring much of the tactical things, but it's the challenges they face going in and setting

up a clinic in Guatemala. They set up a clinic where those people do not have any sort of treatment.

Women are factored into that, too. There are special needs that women have; they have to have a certain level of care, otherwise the challenges they face are life threatening. It's not only that it could be life threatening; it is life threatening.

White: I would like to discuss the map reading and the long-distance topic.

Lynn: Before we do that, in addition to your book, you have a lot of 'really cool' spiral-bound field manuals that would be handy for people to have, especially with some of the topics that we are talking about right now.

NC Scout: With the topic of tactical medicine, the *Ranger Medic Handbook* has the most current version available. It was sent to me by a friend. I put that into publication. I don't think that it is available anywhere else in a spiral-bound format. It's very easy to use in the field.

What I was talking about with tactical combat casualty care is all covered in there. There is a module on how to treat canines as well for different injuries. I think that is very valuable. I have many dogs. If you have any experience being a dog handler, that is quite important. It also has protocols on how to treat children and women, and injuries to treat.

The special operations tactical medical protocols are in there as well. That manual is written for a higher tier of care. There are the tactical protocols – primary intervention for gunshot and blasts and traumatic brain injuries and all the things that you may run into in a tactical environment – but you are also able to get some of the prolonged field care.

How do you care for somebody who isn't getting picked up immediately? You may have 18 hours until they are getting picked up, if that. How do you keep this person alive? Those protocols are in there also.

Having worked closely with several special operations medics, I can tell you that that manual is extremely important to have. It is the 2016 edition, so many of

the lessons that we learned from nearly two decades in Iraq and two decades in Afghanistan and Yemen are in there. There is also relevant information from when we were in the Philippines, the horn of Africa, and so on. Many of those lessons are included there as well as some lessons that were drawn from *The Death of the Golden Hour* by Colonel Rocky Farr. He is the progenitor of knowledge of special operations medical wisdom. Plenty of incredible things went into that book.

It's available for \$20 at Brushbeater.store. Both books are available. I have many of them in stock, which are selling like 'crazy'. I'll have more in stock. I have a local supplier who prints them for me, so I will have them in stock fairly regularly.

Lynn: That is 'awesome'. People should definitely check out your site. You have many field manuals in addition to the books. You also have several training courses that you offer. You can mention those training courses, and then I know James wants you to cover the map-reading a little.

NC Scout: The classes that I currently have on the calendar for the remainder of the year are listed. I have a couple that I need to get up. You can see those on Brushbeater.org. I've one coming out to the Redoubt region here in June.

In Scout Course, which is a three-day small-unit tactics course, the first day covers intermediate range marksmanship. We will get you out to 400 meters. There is no prior knowledge that is assumed coming into that course. In that class, I've taught everybody from active duty soldiers in the Marines to 62-year-old grandmothers. I teach how to shoot, how to get out to that distance, and get confidence with your weapons platform.

The second two days are small-unit tactics – individual movement, camouflage concealment, thermal mitigation, how to move as a team in a tactical environment, and how to conduct ambushes both day and night.

Day three is how to plan patrols and then how to conduct a raid. All the students conduct a raid. So, it's a 'heck of a lot' of fun; I have so much fun in that class.

Radio Telephone Operator (RTO) Course is another one. In that course, we

take people who have no skill level with communications from zero to 100. It's everything from how to create a signals operating instructions all the way up through programming a Baofeng and how to do that 'on the fly' and how to do that with no software. We go into how to prevent it from being exploited; we go into communications security.

Every student in class builds an antenna; there is improvised antenna building. That way you are armed with that knowledge, and you can take that away and teach other people how to do this.

We go over how to operate your equipment in an austere environment; we place you into an austere environment. You have to create communications where there isn't any. How do you do that? You come away from an RTO course knowing: A) That your equipment works, B) How you can best utilize it, and C) How you can maximize its use with almost no money.

Advanced RTO picks up right where RTO left off. We cover everything from digital communications to communication security and how to encode and encrypt your messages. We go into how to take your antennas to the next level; we build Yagis. We go into how to improvise Yagis; a Yagi is a directional antenna. Older TV antennas would be on top of houses, and would have to be turned towards the station.

We go into all of that and HF communications and how to communicate over high-frequency radio. We do a full spectrum of communications.

Finally, the Signals Intelligence Course, which is the 'other side of the coin': How you utilize scanners, communication receivers, software-defined radios, spectrum analyzers, and so on to intercept an adversary's communications, and how you exploit those. We go deep into that. We have a 'heck of a lot' of fun doing it. At this point, I've taught thousands of students.

I'm going to say this: It is a course like no other. I've not seen anything that comes close to what is offered in this course. What you are able to come away with is not just the ability to communicate and create those communications, but how to create those with other people. We go into what to teach others.

I hear back from students that I've had over the years all the time. They've been able to create their own prepper groups and they've been able to create communications over whole regions, getting outside of the neighborhood aspect of things. It's really something incredible to see; it's 'really, really good stuff'.

White: We have just enough time to cover some map reading. I don't know how this would happen, but let's say that you are under pressure and you have to leave your area and find yourself in an unfamiliar area. You have nothing but a compass and a map – which is good; a compass and a map might be good enough. Of course, all communications, at that point, are down. You can't ask Siri which way to go, so you are on your own.

So, you are in the middle of a forest or a field and you only have a compass and a map. That is enough to get you to some sort of a civilized spot. Tell us about that process.

NC Scout: 'Taking it from the top', what type of map do you have? The first map that most people will have is a roadmap. When I was in the army doing different escape and evasion exercises, we had maps that were supplied to us which were MGRS (Military Grid Reference System).

The reality is that topographic maps aren't super-common in the civilian world unless you are a surveyor or a timber cruiser; they use them. You can get them, but typically, when you get those from the US Geological Survey, they will be in 1:24000, which is a different map data breakdown than the MGRS system. So, I had this conversation with a friend. A UTM is not the same as MGRS. The 1:24000 maps are UTM, and MGRS are 1:25000. So that is important to point out. I want to point that out for any potential military or veteran listeners or readers out there who might think they are the same and interchangeable; they are not at all; don't go into it thinking like that.

However, I want to point something else out here. Unless you are one of those aforementioned professions, if I'm on the run for whatever reason (escaping or invading or Red Dawn scenario-movie) and I get spotted with a topographic map, that is going to fingerprint me as being something significant. We have a saying, "Don't look important. Don't look special."

I'm wearing an old, dirty ball cap, and I'm wearing a company logo T-shirt. I want to look like any other person. I look like a farmer. I can hop in my truck or get on a tractor or a lawnmower or whatever. I look like anybody else in my working environment; I blend right in.

White: You're like the 'everyman'.

NC Scout: Exactly! You don't want to look like you are significant. You don't want to stand out as 'special'. So how does this apply to maps? Have a road map.

If you have a road map, road maps don't look unusual; road maps are fairly simple. Let's say that I'm stuck in the woods. North is still marked on a map. So, you pull out a road map and orient it to north. So, I will set my compass down and see where north is pointing. Then I'm going to orient that map and line it up with the compass.

If you are using a baseplate compass or something like a Suunto MC-2 or my favorite, which is a Cammenga standard military compass, it has a straight edge. When you fold them out, both have a straight edge. That's so that you can set it on a table or on the ground or wherever and see where north is pointing, and then orient your map to north.

From there, I can find – whether it is a topographic map or it is a street map or an atlas or whatever – target reference points that are on that map. They are intersections of roads.

Let's say that I'm in a dense forest and I can't see anything and I can't get to where I can look at the lay of the land, I can still see intersections of roads, and I can be at the intersection of a road that is marked. So, I will mark that on the map. That tells me where I am and where my current location is.

Assume I can get up on a hillside where I have a little elevation and I can look out. Maybe from there I can see the lay of the land. I can look at my street map and see where the intersections of roads are, and I can mark those on the map. Then I use my compass to see, "Alright, I've oriented my map to magnetic north, and I'm going to get a magnetic azimuth to where each one of those

points of reference or those ‘target reference points’ are going to be located.”

Let’s say t I see a road intersection here, and maybe a cell phone tower over here at this azimuth. Maybe there is a body of water that I see behind me. I line up each one of those and shoot an azimuth to them. An azimuth is just using your compass and seeing which degree they are on.

I mark each one of those on my map. The intersection of those three lines-the ‘intersection’ where those three lines are going to intersect- is where I am located on that map.

Suppose that I don’t know exactly where I am; I’m lost, but I know I’m looking at my street map. That tells me there is an intersection and this item here and this item there. I shoot an azimuth to each one of those. Now I know where I am located.

White: So you triangulate your position.

NC Scout: Right. That is what I’m doing; I know where I am.

Next, whether you are on a road map or a topographic map or any of those, they are going to have a scale.

White: A map legend.

NC Scout: Right. I always do everything in meters. I know that is kind of an anathema to the American public. We like to do things in feet and yards, especially in the long-range shooting world. All the people who are non-military like to do everything in yards. If you do them in meters, everything is in tens.

From the military ‘side of the house’, we do everything in terms of meters. I know what my hundred-meter pace count is. So, every second foot that hits the ground (every left step that you take) is a pace. You are going to do this for 100 meters. If you know what your pace count is, you can do this.

What I suggest everybody do is line up a 100-meter lane, and walk up and down in your regular shoes that you wear on a day-to-day basis, and count what that

is. For most people, it will be anywhere from 62, if you are really tall, to around 70, if you are shorter. It will be somewhere in that range. Again, it's every left foot step.

White: You mean it's 70 steps to get 100 meters, correct?

NC Scout: It would be 70 paces to get to 100 meters. It's every other step.

Generally speaking, 65 is about average. That gets you to 100 meters. This is important because you need to know how far you have travelled on the map. How do you do that? Using the scale, measure out what the distance is that you are covering on your map. Figure out the expected distance that you are going to cover. You have little phase lines that you cross off as you are travelling.

Let's say that I'm sitting down and looking at my map. I'm escaping and evading, which means that I am primarily moving at night because during the day, it's a zero-sum game. I am moving around and I've drawn out this intended route that I am going to take. I am marking off significant things along the way.

If I am following a creek or a stream and there is a big curve or bend, that is a significant terrain feature. So, I want to mark that. Assume that I'm 400 meters from it. I know that from where I am right now, to me getting there, I've travelled 400 meters.

The next leg of my journey, 400 meters further, I have a hilltop over here. So, that hilltop is another 400 meters that I've travelled.

You are measuring distance, but you are also terrain-associating. So, utilizing terrain association, I am planning out a route. I begin to develop woods awareness of knowing where I am while I am travelling. If you know where you are and you keep your wits about you, you can't get lost.

White: We are coming to the end of the podcast. This is very interesting.

You have the book. I imagine you probably have a manual or something for map-reading as well.

NC Scout: Map-reading and land navigation are in there. It's at the Brushbeater store.

White: This is fantastic! Corey, is there anything that we didn't get a chance to talk about or anything that you wanted to ask. Matt is a wealth of information. We only scratched about 5% of the actual knowledge that you have, but we have to keep it within certain parameters on the podcast.

Lynn: I know! We didn't even get to long-range surveillance.

No, that was great! We could go on for two more hours.

NC Scout: Okay!

White: What I'll do is have you on my regular show.

NC Scout: I would love to!

White: We can talk about all kinds of things.

NC Scout: Let me know when, 'brother' and I'll be there!

White: You've got it!

This man has so much information. Go to his website and look at what he has going on there. Literally, we could have a full series on this. He has eight to ten manuals, maybe even more.

Matt, this has been great. We do appreciate you being here. Go to Brushbeater.Store to get all the material, and then Brushbeater.org is your website.

Matt from North Carolina, we can't tell you how much we appreciate you being here on the *Solution Series*. We are delighted you are here, and we are delighted you are putting out that great information.
Corey, is there anything that you want to add?

Lynn: I appreciate you being here. That was fantastic! Everyone definitely needs to check out your site and the courses that you are teaching. I think it is great that you are covering all the bases there.

Don't you have another website as well?

NC Scout: My other website is www.AmericanPartisan.org.

White: Check that out as well. Matt, we do appreciate you being here today. That is all the time we have for this edition of the *Solution Series*. Of course, it is brought to you by *Solari.com* and *CoreysDigs.com*. If you want to find out more, go to *CoreysDigs.com* and click on the banner that says '*Solution Series*'.

We do appreciate you looking in. We want to thank our guest, Matt/NC Scout, for all his great work. For my cohost Corey Lynn, this is James White for the *Solution Series* saying goodbye for now.

MODIFICATION

Transcripts are not always verbatim. Modifications are sometimes made to improve clarity, usefulness and readability, while staying true to the original intent.

Nothing on The Solari Report should be taken as individual investment advice. Anyone seeking investment advice for his or her personal financial situation is advised to seek out a qualified advisor or advisors and provide as much information as possible to the advisor in order that such advisor can take into account all relevant circumstances, objectives, and risks before rendering an opinion as to the appropriate investment strategy.