

# TWO MORE CHAINS

Fall 2011 ▲ Vol. I Issue 3 ▲ Produced and distributed quarterly by the Wildland Fire Lessons Learned Center



## Your Fire Shelter: Would You Hesitate Deploying It?

By Paul Keller

### First Recorded 'Fire Shelter' Deployment

October 29, 1804

First-person account from the journal of Captain William Clark (of the Lewis and Clark Expedition):

*"The Prairie was Set on fire. . . The fire went with such velocity that it burnt to death a man & woman who Could not get to any place of Safty. . . Among other, a Small boy who was Saved by getting under a green [fresh] Buffalow skin. . . The Fire did not burn under the Skin, leaving the grass round the boy. This fire passed our Camp about 8 oClock P.M. It went with great rapidity and looked Tremendious."*

We train and practice how to deploy our fire shelters—so why do we hesitate to use them?

More than 200 years ago, as evidenced by Captain William Clark's journal entry [on your left], a non-flammable covering—an instant "fire shelter"—protected and saved a human being from the onset of a fast-moving wildland fire.

Starting in 1977—after three Mormon Lake Hotshots, Anthony Czak, Scott Nelson, and Stephen Furey, perish in Colorado's Battlement Creek Fire the previous year—the 20<sup>th</sup> Century's fire shelter becomes required equipment for all U.S Forest Service wildland firefighters.

Since then, we know that the use of fire shelters has successfully saved the lives of more than an estimated 375 interagency firefighters. And—no doubt about it—this constantly evolving and upgraded high-tech aerodynamic invention with its double-layered fiberglass cloth and quartz stitching laminated into aluminum foil has been successfully used to prevent hundreds of serious injuries.

Of course, we all know the official "word" that surrounds fire shelter use: *"The Fire Shelter should be used as a last resort if planned escape routes or safety zones become inadequate and entrapment is imminent."* *"Carrying a Fire Shelter should never be considered an alternative to safe firefighting."* *"Even though the 'New Generation' Fire Shelter offers improved protection, it is still a last resort and cannot guarantee your survival."*

But what about the insider talk—and thinking—among firefighters when your required annual fire shelter refresher training session is over?

It's time that we addressed the underlying stigma for why—even when the smoke, extreme ember wash, and super-heated air are all quickly overrunning your compromised position—you *still* might be reluctant to pop your shelter.

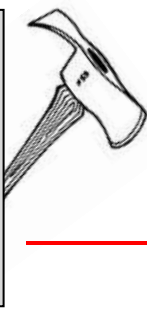
[Continued on Page 3]

### In this Issue

- Do you fight fire like you drive? Page 2
- If you deploy your shelter: Do wildland fire leaders have your back? Page 5
- Introducing our new feedback link. Page 6
- Lat/Long: Can you call in your position? Page 7
- Entrapment survivor's firsthand account. Page 8

If you would like us to include you on our e-mail subscription list, please click [here](#).





# GROUND TRUTHS

By Travis Dotson

Fire Management Specialist  
Wildland Fire Lessons Learned Center  
[Travisdotson@fs.fed.us](mailto:Travisdotson@fs.fed.us)

## Do You Fight Fire Like You Drive?

### What's Normal?

When I was on a Type 2 crew, I eventually got used to riding in a school bus that was going places a school bus was never meant to go (and would be hard to get out of in a hurry).

As a Hotshot, I grew accustomed to putting fire on the ground in "Extreme Fire Weather" conditions. (Make it happen.)

Working as Helitack, I didn't *always* honestly answer the question: "Is this flight necessary?"

On the Fire Use Module, I scoffed at "unburned fuel between you and the fire." (That's normal.)

On the Type 6 engine, I didn't hesitate to operate with only LCE. (Just drive out.)

In the jump plane, I looked for reasons to be "OK" with the jump spot and conditions (not the other way around).

Ponder these definitions:

**Normalize:** Social processes through which ideas and actions come to be seen as "normal" and become taken-for-granted or "natural" in everyday life.

**Risk:** The potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome).

Now, put them together—I'm not saying it's bad; just saying it happens.

What we do is risky. And, to us, it's normal.

### What's Experience Good For?

Think about your progression as a driver.

What was it like when you were first learning how to drive?

I was nervous. I could hardly push the clutch in and steer at the same time! I slowly gained skill, but remained "overly cautious." The more I drove, the more confident I became.

Now I'm a great/horrible driver!

I not only engage the clutch and steer at the same time—I text, eat, and flip through the iPod as well.

I have never been in a serious accident.

Am I good—or just lucky?

Do you fight fire like you drive?

### Be Here Now

*"It is only in our decisions that we are important."*

—Jean-Paul Sartre

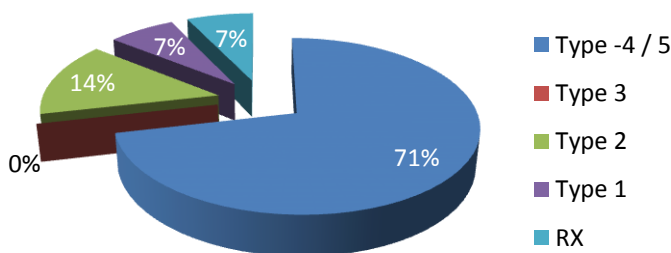
Make conscious decisions about risk.

When you're in the green, realize you are part of the fuel bed. When you're in the trees, *think* about the ones that could whack you. When you take your gloves off, constantly remind yourself you don't have them on.

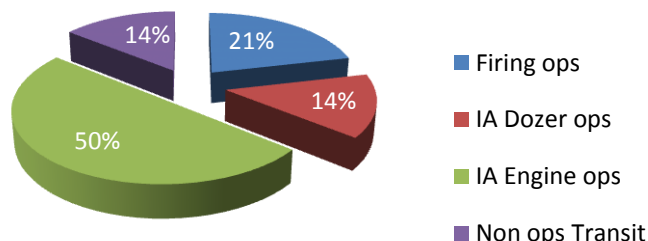
Before you commit to any operation, know exactly how you'll get hurt folks to a hospital.

Dig on Tool Swingers.

### 2011 Entrapments by Fire Type



### 2011 Entrapments by Activity



**More Information to Ponder** – By November 2011, Fire Entrapments comprise 25 percent of all incidents reported to the Wildland Fire Lessons Learned Center this year.

## “The Wildland Fire Community Should Take Away the ‘Stigma’ of Deployment”

[Continued from Page 1]

Most recently, this hesitancy to deploy your fire shelter syndrome was documented in two 2011 fire entrapment incidents:

### Bull Fire Entrapment Facilitated Learning Analysis

- “A negative connotation associated with shelter deployment” and the ability “to use your safety tools without repercussions” were two key firefighter concerns communicated in this April 2011 FLA.
- The FLA also spotlighted how firefighters may delay deployment until the last possible moment—or beyond it. According to the FLA, “There is a common cultural understanding among firefighters that deployment is a very bad thing and triggers a major investigation.”
- From the *Bull Fire Entrapment FLA’s* “Recommendations” section: “The wildland fire community should take away the ‘stigma’ of deployment. Deploying a fire shelter is making use of a (last resort) safety tool. The trigger for a review should relate to the situation (entrapment) that required the use of the tool—rather than the use of the fire shelter tool itself.” “Deployment—when necessary—should be encouraged rather than sanctioned.” [For an inside perspective from one of the firefighter’s entrapped on this incident, see page 8.]

[<http://wildfirelessons.net/documents/BullFireEntrapmentFLAFinal.pdf>]



*This burn out operation on the 2011 Bull Fire will—due to wind-driven slopovers—threaten and entrap firefighters who were positioned on the same ground from where this photo was taken.*



*Fire shelter blown into trees after firefighter escapes to safety on the 2011 Salt Fire.*

### Salt Fire Facilitated Learning Analysis of Entrapment, Shelter Deployment and Equipment Loss

- From a firefighter in this August 2011 fire entrapment FLA: “I heard: ‘Now you’ve popped your shelter, you’re going to have to answer for it’.”
- Another firefighter on deploying: “I figured I might have survived without the shelter, but probably not without injuries.”
- This FLA, once again, tries to address “the stigma associated with pulling a fire shelter.” The FLA explains that the firefighters who deployed their shelters heard negative comments indicating “there would be trouble for all involved because a shelter was used.”
- In response, the *Salt Fire Entrapment FLA* warns: “This cultural issue has great potential to cause people to delay using the fire shelter until it is too late.”

[[http://wildfirelessons.net/documents/Salt\\_Fire\\_FLA.pdf](http://wildfirelessons.net/documents/Salt_Fire_FLA.pdf)]

## Our Hesitation to Deploy Fire Shelters Goes Back Almost 25 Years: ‘It was Too Late to Avoid Serious Injury’ 1988 Canyon Creek Fire Review

Unfortunately, this apprehension about perceived adverse consequences for deploying your shelter is nothing new. The wildland fire community was having this same fire shelter “stigma” conversation—debate—almost 25 years ago.

Case in point, the 1988 *Canyon Creek Fire Shelter Deployment Review Report*

[[http://wildfirelessons.net/documents/Canyon\\_Creek\\_1988.pdf](http://wildfirelessons.net/documents/Canyon_Creek_1988.pdf)] informed that: “A number of crew members attribute their delay in deployment to the perceived stigma attached to undergoing such an action—particularly for IHCs.” This report goes on to explain that when the decision to deploy was “finally” made by those “threatened” by the fire, “it was too late to avoid serious injury.” A conclusion is made regarding “the taking of abnormal risks” with this observation: “And, there is little doubt that the perceived stigma attached to a shelter deployment influenced its timing.” Nine firefighters were “substantially” burned and required hospitalization on this incident.

Fourteen years later, the reluctance to use your shelter syndrome is documented yet again on the 2002 Toolbox Fire Complex. In this deployment incident, 11 firefighters are treated and released—two with minor burns and nine with smoke inhalation. From the subsequent *Toolbox Deployment Incident Overview* report [<http://www.wildfirelessons.net/documents/ToolboxDeploymentIncidentOverviewFinal.pdf>]: “The stigma associated with fire shelter deployment made it hard to overcome fear about the possible outcome of the investigations.” [Continued on Next Page]



*Firefighters on the 2002 Toolbox Fire. Photo by Tom Iraci.*



*"Forest officials and seasoned firefighters involved with this incident all made the point that firefighters must not be reluctant to use the fire shelter or be intimidated about using it. They all said that a stigma currently is associated with fire shelter deployment. We must work past that stigma. . . The decision to deploy is a positive decision."*

**Nuttall Complex Fire Shelter Deployment Review, December 2004**

[\[http://www.wildfirelessons.net/documents/Nuttall\\_Deployment\\_Review\\_Final\\_2004.pdf\]](http://www.wildfirelessons.net/documents/Nuttall_Deployment_Review_Final_2004.pdf)

**Fire Shelter Entrapment Survivor:  
Don't Hesitate to Use Your 'Last Chunk of PPE'**

[Continued from Page 3]

On the 2005 I-90 Tarkio Fire, a fire blow-up compromises escape routes for three firefighters. "I remember when the radiant heat hit us," Mike Friend recalls in the video "Mike Friend: One Firefighter's Account of Thinking Ahead and Surviving" [\[http://www.wildfirelessons.net/Additional.aspx?Page=Operations\]](http://www.wildfirelessons.net/Additional.aspx?Page=Operations). "And then the winds hit us . . . It got really hot . . . I was pinned to the ground on my hands and knees. I could smell my Nomex heating up. At that point, we all three deployed our shelters."

As Friend emphasizes in the video's conclusion: "Your fire shelter is just another tool of PPE to be utilized. Don't let the stigma of 'Oh My God, my fire shelter's coming out' happen. Don't be afraid if you feel that you need to use your fire shelter—if you have no other avenues. That's the last chunk of PPE you have on your back. And for me it worked just like it was suppose to—it's why I'm still here to talk about it."



*Survival Site – Location where Mike Friend and two others successfully deployed on the 2005 I-90 Tarkio Fire.*

**Do We Need a Cultural Course Correction?**

*"The fact that when—at that critical decision point—a firefighter might be thinking more about the bureaucratic consequences of shelter deployment rather than the fire itself and his or her own personal safety, begs the question as to whether a cultural course correction is warranted."*

**From the I-90 Tarkio Fire Shelter Deployment Accident Investigation Report**

[\[http://www.wildfirelessons.net/documents/I-90\\_Report.pdf\]](http://www.wildfirelessons.net/documents/I-90_Report.pdf)



*Aerial photos show the ridge where the 2007 Ahorn Fire shelter deployment occurred. Inset photo on left was taken at the time of deployment.*

**'Should I Really Pull This Shelter Out?'  
'Am I overreacting?'**

Two years after this successful Tarkio Fire shelter deployment incident, when a fire blow-up threatens a Division Supervisor's location on the July 2007 Ahorn Fire, he also successfully deploys—but not before some hesitation and reluctance to do so.

As the blow-up quickly runs up hill toward his compromised position, the Division Supervisor now explains: "At that point, I started thinking: 'Should I really pull this shelter out or not?' I thought about a number of different things, including: 'Am I overreacting?' I thought about the whole process of going through investigations—all of this is happening very fast."

Next, the 28-year veteran firefighter realizes that—considering his situation—the "prudent" thing to do is to get that shelter open and get inside it. "At that time, all the training I'd gone through over the years—and training

I'd provided—took over. It calmed me to know that I was acting in a manner that I had good knowledge of—what to do and what to expect." [For more information on this successful shelter incident, see the video "Close Call – What You Can Learn from the Ahorn Fire Shelter Deployment" [\[http://wildfirelessons.net/Additional.aspx?Page=354\]](http://wildfirelessons.net/Additional.aspx?Page=354) or read this incident's Facilitated Learning Analysis [\[http://wildfirelessons.net/documents/FLA\\_report\\_and\\_pics.pdf\]](http://wildfirelessons.net/documents/FLA_report_and_pics.pdf).

[Continued on Next Page]

## If You Deploy Your Shelter: Do Our Wildland Fire Leaders Have Your Back?

[Continued from Page 4]

### Why Do Firefighters Feel Like They've Failed If They Deploy a Shelter?

*"I think this is both a simple and a complex issue. On the simple end, it may be because we place so much emphasis in training on 'entrapment avoidance.' Clearly, if you have to deploy a shelter, you have fundamentally failed at avoiding entrapment. On the more complex end, it probably has something to do with the identity of a firefighter. Firefighting is basically an offensive operation: We are 'fighting' the fire—preferably, on our terms. Pulling out a shelter is definitely a purely defensive move, one that is only made to avoid death by burning. I would imagine that the primary emotion at that moment in time is fear—one of the most powerful emotions, yet one that we almost never talk about. So, when you have failed to avoid entrapment and are making a defensive move (including dropping your tools, another move toward abandoning your identity as a firefighter) while full of fear, to avoid being killed by the fire that you came to 'fight' . . . Well, yes, that would feel like failure.*

### Learning Should Be Our Only Focus

*On this issue of failure, I believe we tend to think of and treat the issue of fire shelter deployment as a purely personal one (with the implication that there was a personal choice of some kind involved.) I mean, if I deploy a shelter, I was the one who became entrapped and I was the one who pulled out the shelter and got in it—no one else. Yet this simplistic thinking begs the question of any organizational role in the event. Why was that firefighter at that place at that time where they could become entrapped? An organization put them there. I believe somewhere in this line of reasoning is the answer to how we should proceed when a firefighter becomes entrapped, whether or not a shelter is deployed. All entrapments are learning opportunities. We all—both management officials and firefighters—need to view and understand them as such. We should be consciously engaged in the removal of any stigma from the act of deploying a fire shelter. The only real failure that could happen when a firefighter becomes entrapped would be a failure to learn—personally and as an organization—from the event. Learning should be our only focus."*

**Larry Sutton**

Fire Operations Risk Management Officer  
U.S. Forest Service



Photo by Kari Greer

### Is This Like the Jet Fighter Pilot Who Keeps Trying to Recover His Flight Profile?

*"Just this week I was in a conversation with someone who said that they had told their wife if they ever died on a fire it was because they had messed up. It got me thinking about this [fire shelter] topic. While the outcomes are different, re: fatality vs. shelter deployment, the perception seems to be that they are equally as bad. They're simply not. And both could happen with no real screw-ups—just an incredibly unfortunate collision of time and space. I don't have the answer. But I wonder if this is like the jet fighter pilot who keeps trying to recover his flight profile and eventually either ejects too late or continues to work the problem until the plane crashes?*

*Maybe our people feel like they need to keep working the problem—even when the inevitable is upon them. And then they feel like their peers are going to say: 'I can't believe Chad was in that situation. What was he thinking?' or 'If he would have only done this, he wouldn't have had to deploy.' This feeling that there is always another action to be taken may be driving our folks to keep searching for one more option before using what we teach as the 'last ditch' option. The option you use when all else fails—the one that may save your life if you use it early enough.*

*We expect firefighters to use their judgment hundreds of times a day. If their judgment indicates it is time to deploy a shelter—and they do so—our culture should support their potentially life-saving action. Or, maybe it's just this: How many of us want to admit to ourselves—much less the world—that in an effort to save a bunch of trees in the forest we wound up in a situation requiring us to rely on a little piece of aluminum foil to save our life?"*

**Chad Fisher**

Wildland Fire Safety and Prevention Program Manager  
National Park Service

[Continued on Next Page]



Photo by Eli Lehmann

## We Review Shelter Deployments to Learn as Much as We Can From Them

[Continued from Page 5]

*"I don't see shelter deployments any differently than any other type of unplanned incident or accident. We investigate or review their occurrences to find out what happened so we can prevent it from happening again. We're also looking for what organizational failures existed that opened the holes in the 'Swiss cheese' to set in motion such an event—so that we can be better at putting in defenses against this situation from occurring again. A situation that brings a person to deploy a shelter is usually significant. We want to learn as much as we can from those instances.*

*Although not every shelter deployment is considered 'serious' from an investigation perspective, it is worth noting current changes within the accident investigation process. The proposed language in the forthcoming, (in draft) NWCG Interagency Serious Accident Investigation (SAI) Guide reinforces this philosophy of learning rather than criticizing: 'It is important to understand why it made sense for the people involved to make the decisions they did. What you think 'should have' happened or 'could have' happened is irrelevant. Avoid this hindsight bias trap. Be mindful of the human tendency toward hindsight bias.'"*

**Michelle Ryerson**

Safety Manager

Bureau of Land Management, Fire and Aviation

## The Reason We Look at these Incidents in Detail – To Promote the Value of Lessons Learned

*"The challenge is getting people more comfortable about sharing their burnover experiences (and the never-heard-about near misses) openly so the rest of the fire community can benefit from their knowledge. The 'greater good' dictates that you swallow your pride and help the rest of the fire community learn from your experience.*

*"Entrapment avoidance works well, that is why we do not have very many entrapments and fire shelter deployments. I think the 'last resort' statement is a little short-sighted because it almost infers that you need to wait until you are getting burned. A more inclusive description that gives firefighters more options is: 'If you think you need to use a fire shelter, use it.'"*

**Tony Petrilli**

Fire Equipment Specialist  
Missoula Technology and Development  
Center [MTDC]

*The safety community realizes that nobody sets out to get burned over on any given day. We acknowledge that somehow what they were doing just prior to the accident made sense to them at the time—right up to the point that they realized they were in a bad spot.*

*The reason we look at these incidents in detail is to learn why their decisions and situational awareness made sense to them—and identify any latent conditions that may have led them to that conclusion. Ultimately, we need to study burnovers and near misses to learn where we (as an organization) can lay in our defenses to prevent future occurrences.*

*As a high reliability organization, we should continue to promote the value of lessons learned when our people have a willingness to share their experiences."*

**Ted Mason**

National Fire Safety Specialist  
U.S. Fish and Wildlife Service

## Dear Reader: We're Hoping for Your Input – Please Use the New Link on Our 'YOUR Feedback' Page

*"After reading this issue, will you do anything differently in the field?"*

*"How can we improve Two More Chains for you?"*

At *Two More Chains*, your input is vital to our ability to be an effective communication tool. We therefore want to provide you with an opportunity to share your thoughts and suggestions with us—to always ensure that we are providing you with relevant and useful information.

That's why, in this issue, we're introducing a new interactive feedback loop. In every

### Check Out

The Wildland Fire Lessons  
Learned Center's  
New Channel on **YouTube!**



[For best results with all QR codes in this issue,  
download the free Mobile Tag application for your smartphone.]

[www.youtube.com/user/WildlandFireLLC](http://www.youtube.com/user/WildlandFireLLC)

issue, our "YOUR Feedback" page will now feature this "**Two More Chains Feedback**" link—providing you with a direct communication pipeline back to us (see page 11).

We look forward to hearing from you.



Photo by Ben Croft





## Shop Talk

## Lat and Long Basics

### What is Lat/Long?

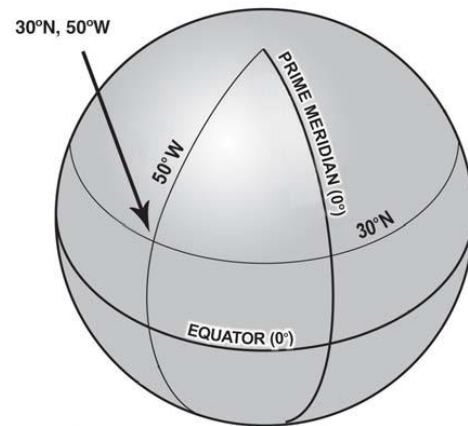
#### Latitude

Latitude lines circle the world parallel with the equator, running in an easterly and westerly direction. These lines are identified by their position either north or south of the equator. The equator is 0° latitude and the North Pole (90° N) and South Pole (90° S) are both 90° latitude. All other points on earth have latitudes ranging between 0° to 90° north, or 0° to 90° south. When stating the position coordinates, latitude is always said first.

#### Longitude

Longitude lines run true north to true south—North Pole to South Pole. Longitude is the distance east or west of the prime meridian (Greenwich, England). The prime meridian is 0° longitude. All other points on earth have longitudes ranging between 0° to 180° east, and 0° to 180° west. Lines of longitude are not parallel. The closer they are to the poles, the shorter the distance between them. Principal meridian lines run in the same direction as the lines of longitude.

[Latitude and Longitude information from:  
[Basic Land Navigation](#)-PMS 475 (NWCG June 2007).]



*The coordinates for the point where the latitude and longitude meet—as shown above—is described as:  
30°N, 50°W.*

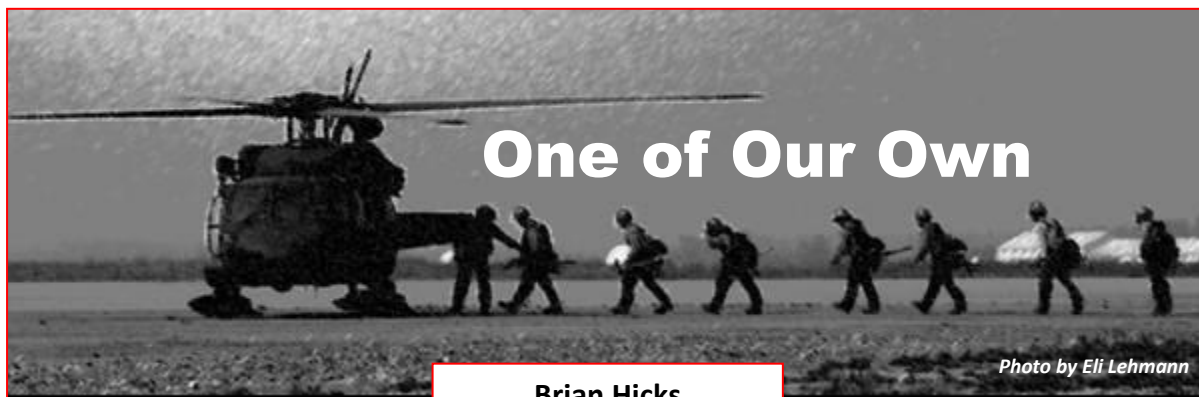
If you have a subject idea for this column, please send it to us:  
[lessonslearnedcenter@gmail.com](mailto:lessonslearnedcenter@gmail.com)

### Can You Call In Your Position?

We should all be able to get on the radio and call in our location. But what if you have never done it—or don't do it very often? What if the first time you have to do it is an emergency? Here (below) are a few basics on how to read out Lat/Longs properly.

#### Latitude and Longitude Coordinates of a Point can be Described in Different Formats

Position Format	How It Looks	How You Say It
Degrees Decimal Minutes (most aircraft)	48° 36.12' 114° 08.12'	"North Four-eight degrees, three six point one two minutes." "West One-one-four degrees, zero eight point one two minutes."
Degrees Minutes Seconds (many maps)	48° 36' 07" 114° 08' 07"	"North Four-eight degrees, three six minutes, and zero seven seconds." "West One-one-four degrees, zero eight minutes, and zero seven seconds."



**Brian Hicks**

*Photo by Eli Lehmann*

## **Practice What You Preach—Because You’re Gonna Do Whatever You Practice**

**By Travis Dotson**

It’s early season—April 2011—but fire activity is picking up. Things are starting to roll in the southwest.

Brian Hicks, Assistant Fire Engine Operator on a heavy engine, gets a good deal—filling in with a helitack crew on a going fire. He ties in with the crew and does a shift at the helibase. On day two, he is on the load to head out and staff a new helispot (H-3).

“Myself and one other got out. We are to improve the spot so they could do a crew shuttle to do a burn out on the border fence between the U.S. and Mexico,” Brian recalls. “About 0930, things were getting rolling out there.”

Brian and the other crewmember are instructed to staff the helispot and serve as lookouts. The firing operation, to be conducted by a hotshot crew, will be taking place just down the slope from H-3. If the main firing operation is unsuccessful, the plan at H-3 is to ring fire the helispot.

“The hotshot crew got it [the firing operation] almost down to the drainage,” Brian explains.

“There was one spot on my side. Then there was another spot. Then there was a third spot, right below the first spot. I called and said: ‘I’m gonna give you guys a couple of minutes, then we are going to start burning out up here’.”

The spots from the firing operation grow quickly. It becomes clear to Brian that they won’t be caught. He and the other crew member are now in a threatened position—fire below them with the wind pushing upslope.

They quickly start to implement their plan of firing around the helispot.



*Brian Hicks with his wife Selene, and son, Jourin.*



*After his entrapment experience, Brian Hicks kept thinking about the decisions he made and his reactions to the various situations that day. He did some research and talked with others who had similar experiences. As this article explains, this entrapment experience has provided Brian with several valuable insights.*

Brian explains what happens next: “We got the gear to the center and decided we were going to start burning out. The spot wasn’t dirt, there was small grass and some oak and juniper around us, too. I was thinking, small grass, light fuels. If I burn it off in enough time—30 seconds—I’ve got nice cold black that I can step right back into.

“The other crewmember asks me: ‘What do you want me to do?’ At that time, I got into this ‘go with what I’ve learned’ kind of thing. We dropped our gear, grabbed fusees, and pulled our shelters out of our packs. I started burning; he started swatting. We’d let it burn for a second, then swat it out, then get another two or three feet, and swat it out. We were getting nice cold black—perfect for a prescribed fire situation. So I’m trying to back fire toward the head fire coming at us.”



Brian is a ten year veteran on this Forest and is very familiar with the fuel type and the associated tactics. A very common tactic in this area is to create black line by burning and swatting. Brian reverted to the way he had always conducted burning in that fuel type: create a black line by lighting and swatting, backing fire against the wind.

"With 20/20 hindsight," Brian now says, "if you turn around and put the fire with the wind, and just let it blow, you can walk right into it in a grass situation."

#### **'I Realized This Isn't Gonna Work'**

"Maybe a minute into it, I realized this isn't gonna work. I started to see the flames cooking out of the canyon, it was coming at that time. I told him [Brian's other crew member]: 'Just ring this whole damn thing.' It clicked into me then—just get this into the grass. The spot we picked [to start ringing with fire] was only 30 feet from a stringer of oak on the north side of us. So once we pushed it into that and had the other fire push toward us on the other [south] side, we couldn't go south because we'd be going into the head fire. And now we've just put a bunch of heat into the oak in front of us.

"At that time, pointing downhill and to the west, I told my partner: 'Get out of here!' And he was gone. I was going to finish one little sweep—because I'm thinking protect the site.

"I finished my sweep and got on the radio to tell the IC we were abandoning the spot. He said: 'Don't go. Do not leave that spot.' At that time, I was moving down into the drainage. I can just imagine how he sees this roaring fire coming out of the canyon. He didn't know which way we were going. If I were in his shoes, I'd have said the same thing. I hollered at the other crew member: 'Get the hell back here!'."

---

*"Right now, just talking about it, I can feel that tension I was feeling out there. I remember looking down at my shelter in my hand, and going: 'Do I want to pull this out?'"*

**Brian Hicks**  
Entrapment Survivor

---

turned around, saw the flanking fire coming up from Spot 2 and saw the one [flame front] that was going through the helispot. I had this narrow window that I could push through and get to the cold black [back to the helispot].

"At the time, I didn't so much see the flames, I could hear it and I could feel it. Right now, just talking about it, I can feel that tension I was feeling out there. I remember looking down at my shelter in my hand, and going: 'Do I want to pull this out?' Then I looked at that alley and I said: 'I can get through that'."

Brian does make it through that narrow alley. But he suffers 2<sup>nd</sup> and 3<sup>rd</sup> degree burns on his legs, arms, and face—primarily on his knees, elbows, and wrists.

"It took me a minute in the smoke to get my bearings. Once I did, I started hollering for the other crewmember. I guess the fire went to the wet area from the helicopter and slowed down, so he was able to hold up for a second and come up underneath that as the fire pushed through.

"If I would have pulled that shelter out and used it like a shield, I could have gotten through there and not had as much burns. Having my shroud down—even though it didn't close right and was flapping around—was enough to protect my face and neck a lot." Brian and the other crewmember, who received minor burns as well, are flown from the fire directly to a nearby hospital and eventually to an area burn center.



*Aerial view shows the U.S.-Mexico border fence, the direction of the planned burn out operation, and Helispot 3—where Brian Hicks and another firefighter are serving as lookouts.*

#### **Can Still Feel the Tension**

At this time, Brian doesn't realize that during the initial chaos of the spots, a helicopter with bucket has been overhead trying to contact someone on the ground for a drop location—but is unable to do so. So the pilot drops the water on some oak and grass near the edge of the helispot.

"Unknowingly, that's the way we chose to go, that spot the helicopter threw some water on. That is where the fire held up, to give us an escape route. I

"I had 27 days of off time—constantly going over what the heck happened out there."

### How We Respond to Crisis Situations

Brian did some research and talked with others who had experienced similar instances. He kept thinking about the decisions he made and the reactions he had to the situation.

Eventually, Brian discovered the concept known as "*Threat Rigidity*"--the human tendency to respond to a new crisis situation rigidly and strictly by the book, even though the learned response may be inappropriate and harmful in the given crisis situation.

"I went back to my training, which I stress is a really good thing. But we need to incorporate this idea you can step back for a quick second and just look at your environment.

"I went back to what I know. I didn't need to do this perfect burnout. But, now I'm in a stressful situation. So, for me, it's the way I've always done burnouts. I've never been in an entrapment before, so this is the only way you do burnouts!

"I've been working hard to do more *thinking* out there. I've looked into ways to correct that *Threat Rigidity*. They say just through knowing about it—you can stop it.

"That's something that captains, AFMOs, and FMOs, are going to have to figure out: How are they going to get their firefighters into these stressful situations so they will know how their body reacts? So they can say: 'Here is the typical situation that we've taught you'—and then give you this left turn. Now what are you gonna do? Are you going to stick with 'the typical' that we taught you, or are you going to step back for that half-a-second to give you enough time to say: 'OK, that's my new avenue'."

### What went through your mind about your fire shelter?

"I had it in my hand the whole time. I really didn't notice it until I turned around and realized I have this small tunnel to get through to get back to an area I know is black by now. That's when I was like, I got my shelter here, and I thought about situations I've had with supervisors and stuff. It was like, how did I get myself into this situation? It's like the shelter was my supervisor and I was looking at him and saying: 'I've screwed-up pretty bad and I'm gonna use this right now, this last resort.

"If I was in that exact same situation again, I would use my fire shelter when I was in the tunnel, when I was trying to get through. Maybe even a little bit earlier. We never really train with running with a shelter, using it as a shield. Maybe we should."

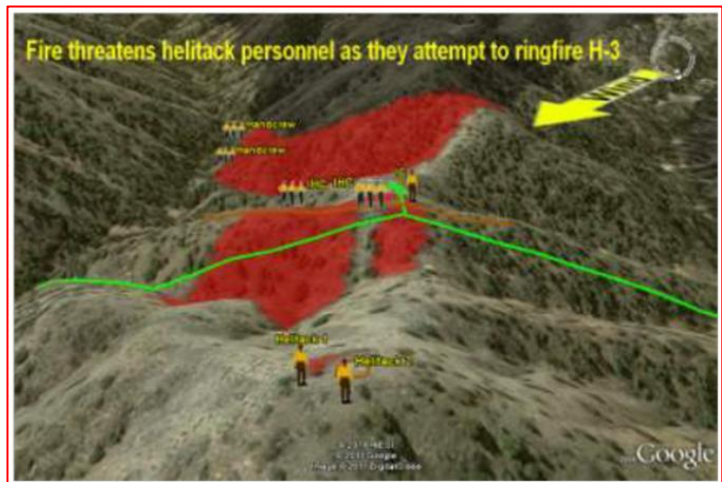
### What do you do differently on fires now?

"Now I want to do that tactical pause a little bit more. Even in project work, practice it day-to-day. Step back from the environment for a bit. On fires, shoot it in your head: The safety zone is at DP-3, but if I can't make it to DP-3, what else could we do?"

### Anything else this experience has made you think about?

"We are too worried about catching it [fire] on this border, or at this ridge. It's kind of the shelter thing. I look at it and say: If I use this, I'm going to have to answer some questions. As an IC, I didn't catch it at that ridge and let it go 10,000 acres—I'm going to have to do some answering.

"You might tell yourself, when this happens I'm hauling ass. But your gonna go with what you know. If you've practiced every day hauling ass, then you're gonna do it. So, just practice what you preach—because you're gonna do whatever you practice."



Aerial view shows Brian Hicks and his fellow crewmember's compromised position at Helispot 3 when winds push the fire up the slope toward them.

### Looking for 'One of Our Own' Candidates

Do you know someone who might make a good candidate for this "One of Our Own" section—a person whose story might be of interest and could benefit other wildland firefighters? Please forward this person's name and contact info, plus a brief summary of why he or she would be beneficial for this section to: Paul Keller, [prkeller@fs.fed.us](mailto:prkeller@fs.fed.us), 503-622-4861.

(For more information on this entrapment incident, read the Bull Fire FLA: <http://wildfirelessons.net/documents/BullFireEntrapmentFLAFinal.pdf>)

# Your ***FEEDBACK***



## Extremely Important to Share

I read with great interest the summer issue of *Two More Chains*. The subject of injuries and fatalities due to both green tree and dead snags-related accidents is a topic that I am intimately experienced in. As such, all of the stories that were shared in this issue were timely, relevant, and extremely important to share.

Despite the difficulty for some of us in the wildland suppression business to focus on and dissect all the causal factors that lead up to a serious or fatal accident, I would submit that we owe it to our crews and families to take the time to do it.

You will find my name in the bio portion on the very last page of “part two” of the Daniel Holmes Investigation. As personally difficult as it was to participate as a member of the Daniel Holmes Serious Accident Investigation Team, I would do it again tomorrow if asked. I think my reasons why might be the same reasons why you folks at the Wildland Fire Lessons Learned Center publish this document—the chance that through accident investigation findings, perhaps some of these kinds of accidents can be prevented in the future.

To take that one step farther, I will—if you like—take the time at some point to tell the tale on how my leg was broken by a falling tree (green) in 1996 on the Cooks Peak Fire, Plumas National Forest. Despite being significantly injured, I consider myself extremely lucky, even though the day I was hit by that tree was the last day of my being a Hotshot Foreman—a job I truly loved.

**Kevin Chambers**, Central California District FMO  
Bureau of Land Management

□ □ □ □

## Pass These Lessons On

Thank you all for doing these. It still hurts to read about some of these folks and things that happened—especially when you knew them [*hazard tree victims in Two More Chains summer issue*]. But it's important to find good ways to learn from these incidents. Let's keep trying to find ways to pass these lessons on.

**Ken Kerr**, State Fire Management Officer  
Bureau of Land Management – Colorado

□ □ □ □

## Change Our Culture

I was in Kentucky as a District Ranger when Krstofer Evans was hit by this small tree. [*Krs was featured in the last issue's "One of Our Own."*] Also, while on the Wallowa-Whitman National Forest, Steve Uptagrove was stuck by a 12-inch snag during a marijuana clean-up event and was killed.

[Two More Chains  
Feedback](#)



I just went through our safety engagement conversation and stories like these help me have the dialogue to change our culture to stop serious injuries and killing our “family.”

Keep up the great work.

**Betty A. Mathews**, Forest Supervisor, Prescott National Forest

□ □ □ □

## Appreciate Relevance to the Field

Just wanted to pass along a “pat on the back” for those of you putting together *Two More Chains*. Nice job; well done. I appreciate the thoughtfulness and relevance to the field.

**Kim Ernstrom**  
Lead Fire Application Specialist, Wildland Fire Management  
RD&A Rocky Mountain Research Station - DOI Duty Station:  
National Interagency Fire Center

□ □ □ □

## From the ‘Pointy End’

I would like to offer some feedback on the recent issue, Summer 2011, of *Two More Chains*.

This was an excellent issue. The content was all extremely relevant and held my utmost attention throughout. The personal accounts of tree-related incidents were captivating and from the pointy end.

I have worked in fire suppression in tall timber country in Australia for over 25 years and know the dangers of falling trees and limbs. This danger is always discussed at any safety briefings or training.

I intend to distribute the *Two More Chains* publication to my co-workers—highlighting the relevance of the content.

Once again – Well done!

**Kent McConnell**, Fire Operations Officer  
Tasmania Parks and Wildlife Service

*Two More Chains*, published quarterly by the Wildland Fire Lessons Learned Center, is dedicated to sharing information with wildland firefighters. For story tips, questions, or comments, please contact: Paul Keller, [prkeller@fs.fed.us](mailto:prkeller@fs.fed.us), 503-622-4861.

