

WWLT Safety Manual 2007

Location: The Great Smoky Mountains

I (Stacey) traveled to the Smokies just two weeks ago to scout-out our hiking route. As I sat and talked with a ranger, I asked her what the greatest safety issues were in the park. Her answer was proper clothing that prevents hypothermia, food safety to avoid bears, and proper water intake. For a starter introduction to safety issues in the Smoky Mountains, take a look at this website: [National Park System – Hiking Safety](#).

1. STORMS & FOG

The Smoky Mountains are called “Smoky” for a reason. This mountainous area has fog nearly everyday, sometimes for entire days on end. The wispy, smoke-like fog that hangs over the Smoky Mountains comes from rain and evaporation from trees. On the high peaks of the Smokies, an average of 85 inches of rain falls each year, qualifying these upper elevation areas as temperate rain forests. Because heavy fog and heavy rain are so common, it would be helpful for us to know a few basics about dressing appropriately for storms and also navigating in low visibility conditions.

Prevention:

In order to avoid safety issues (i.e. hypothermia) during heavy storms and cold temperatures, it is essential to have appropriate gear. The best preparation for poor weather is to bring layers of clothing that you can take off and put on as weather conditions change. Avoiding cotton, wearing materials that wick moisture, and having a quality rain-proof layer are important for staying dry and warm. Having an effective rainfly for your tent and rain covering for your backpack can prevent other essential items from becoming wet.

No matter what the weather conditions, it is a general rule to never leave a trail or at least not go far off a trail. In the event of fog, it would be extremely wise not leave the trail at all. The trails in the Smokies are very well marked and have few “false trails” (trails that look like they are on your path but will actually lead you in the wrong direction). If a heavy fog is settling in the area, make your way back to your tent so as not to get stuck on or off the trail without visibility.

When hiking out of camp, commit to memory different landmarks as you hike, turn around often and look back at the way you have come – things look vastly different coming from the opposite direction. You will be provided with a trail map for the area when we arrive.

Responding:

If you are caught in an unexpected fog with little or no visibility, you can stay where you are and wait 30 minutes to see if conditions change. If conditions do not change, carefully follow the exact trail you took from your campsite. Look carefully along the way to see landmarks along the trail that can indicate if you are going in the wrong direction. Fog in the Smokies can last for long periods, so it is wise to just work your way back to your campsite whenever visibility is increasingly difficult.

Heavy rain in the Smokies can also decrease visibility. Use the same instructions as above to return to the campsite when rain becomes heavy.

Also see symptoms and treatments for Hypothermia below.

2. ANIMALS

Bears

Bears are very common in the Smokies. From the literature I have read, there are 2 bears per square mile in the area we will be in. Our campsite is well-used, so bears will have a habit of looking for food there. The likelihood of seeing a bear in our campsite (usually around dusk) is very likely. There are fortunately few reported attacks or deaths from these bears, but any bear encounter must be treated seriously. Females with newly born cubs usually emerge from their winter dens in late March or early April. When mother bears are with their cubs, encounters become significantly more dangerous.

Prevention:

Proper storage of food, body products, toothpaste, and other odorous items is the beginning of preventing encounters with bears. The Smoky Mountains provides each campsite with a bear line that is approximately 2 stories high. The bear lines have pulley systems that can be used to hang entire backpacks or stuff sacks with all food and body products. We will be using these lines both at night and during the day. It is important to never eat food in your tent. It is also never good to leave food unattended at your campsite.

Responding to an Encounter:

If you see a bear, remain watchful. Do not approach it. If your presence causes the bear to change its behavior (stops feeding, changes its travel direction, watches you, etc.)—you're too close. Being too close may promote aggressive behavior from the bear such as running toward you, making loud noises, or swatting the ground. The bear is demanding more space.

Don't run, but slowly back away, watching the bear.

If a bear persistently follows or approaches you, without vocalizing, or paw swatting, try changing your direction. If the bear continues to follow you, stand your ground. If the bear gets closer, talk loudly or shout at it. Act aggressively and try to intimidate the bear. Act together as a group if you have companions. Make yourselves look as large as possible (for example, move to higher ground). Throw non-food objects such as rocks at the bear. Use a deterrent such as a stout stick. Don't run and don't turn away from the bear. Don't leave food for the bear; this encourages further problems.

Most injuries from black bear attacks are minor and result from a bear attempting to get at people's food. If the bear's behavior indicates that it is after your food and you're physically attacked, separate yourself from the food and slowly back away.

If the bear shows no interest in your food and you are physically attacked, fight back aggressively with any available object—the bear may consider you as prey! Help protect others, report all bear incidents to a park ranger immediately. Above all, keep your distance from bears!

The most common mistakes that lead bears to aggressive behavior are attempts to photograph the bear, getting between a mother and cub, and running from the bear. Refer to the websites below that cover the bears of the Smoky Mts specifically.

[National Park Service – Guide to Black Bear safety](#)
[Great Smoky Mountains – Guide to Black Bear safety](#)

Using Bear Spray:

Before spraying, make sure the wind is not blowing in your face or the spray will blind you rather than the bear. If a bear approaches slowly or follows at a distance, fire two or three

short bursts of spray between you and the bear while you continue backing away. The spray will create a cloud of deterrent which may stop the bear. But make sure you have enough left to spray the bear in the face at short distance if it keeps coming.

If a bear is charging, stand your ground, fire a couple of short bursts to create a cloud in front of you, then save remaining spray for use at close range if necessary.

A Caution on Bear Spray:

On several occasions I have traveled to the Smokies and attempted to find bear spray. When I have entered stores to ask if they carry the spray, many of them are almost offended that I would ever consider spraying a bear. When they understand that I often hike alone they are a little more understanding. The point is that Bear Spray should only be used as a last resort. An instance when you would use bear spray would indicate a high risk to your life. The methods mentioned on the above websites are always the default when in proximity to a bear.

Boars

There are about five hundred wild boars in the Smokies.

Prevention:

Female boars with piglets are the most dangerous. If you come upon a boar, simply back away. There is a very good chance they will smell you first and run away, but sometimes, they will lie still and hope for you to pass by them. But they are just like other pigs in that they like to wallow in mud and they stink. There is a good chance you will smell them before you see them. Never approach them and never handle what may seem like an orphan piglet. Boars have very sharp tusks and they will attack and impale you if they feel threatened.

Responding:

If you startle a boar and it does not flee, slowly back away from them, and try not to make eye contact. While backing away, find and hold your bear spray with the nozzle pointed away from you. If they charge you, which is highly unlikely, spray them and climb a tree.

Elk

Prevention:

Currently there are around 50-75 Elk throughout the Smokies. Elk are large animals-larger than the park's black bears-and can be dangerous. Female elk with calves have charged people in defense of their offspring. Males (bulls) may perceive people as challengers to their domain and charge. The best way to avoid these hazards is to keep your distance. Never touch or move elk calves. Though they may appear to be orphaned, chances are their mother is nearby.

Responding:

If you are charged by an Elk, run away and find a tree fast. They will overtake you quickly.

Poisonous Snakes

Prevention:

Two species of poisonous snakes live in the Smokies, the northern copperhead and timber rattlesnake. Although very few snake bites occur here, visitors should be cautious where

they place their hands and feet, especially around old buildings and stone fences. No fatalities from snakebites have ever been recorded in the park. 80% of bites occur due to people bothering the snake.

Responding:

If you are bit by a poisonous snake, there is only a 30% chance the bite will be venomous. First move away from the snake and then try to calm down. Your own fear will cause the venom, if there is any, to move more quickly through your body. A Venom Extractor must be used within the first minute after the bite in order to be effective. It's a good idea if you can act that fast. Otherwise, wash the wound with soap and water, try to immobilize the bitten area and keep it lower than the heart. Then pursue immediate medical treatment. Do not cut the wound and try to suck out the poison. Do not use a tourniquet or apply ice to the wound.

Insects

Prevention and Responding:

Yellowjacket wasps are the insects of greatest concern. They build nests in the ground along trails and streams and are aggressive when disturbed. Avoid perfume, powder, and scented deodorants which may attract yellowjackets. Stings cause local swelling and can lead to severe allergic reactions in a few sensitive individuals. Such persons should carry epinephrine kits.

Ticks

Ticks can be found in the woods, tall grass, weeds and brush. Because of their persistent blood-sucking behavior, they transmit several potentially debilitating and life-threatening diseases.

Prevention:

- Avoid tick-infested areas, especially in spring and summer months.
- Stay on the center of trails and paths – don't brush against vegetation if you can avoid it.
- Wear long pants, and tuck in your pant legs.
- Wear a hat and a long-sleeved shirt for extra protection.
- Use insect repellent. Products containing DEET can be used on either skin or clothing. Permethrin can be used only on clothing. Both are readily available.
- **Frequently check yourself for ticks. Ixodid ticks are about the size of a pinhead, therefore easily overlooked. Other ticks are larger, about the size of a pencil eraser or larger.**

Responding:

Remove ticks from your skin immediately with tweezers by grasping the tick's head parts as close to your skin as possible. If mouthparts remain embedded in skin, contact your physician. Wash the bite area, apply antiseptic and cover with a band-aid. Ticks are slow feeders. Risk of infection is greatly reduced if they are removed within 24 hours.

Lyme Disease:

Often tick bites are associated with Lyme Disease. However, there is a low chance of this occurring in the Smokies. The northeast, north central and pacific coast states have a

much higher incidence of this disease. But if you are bit by a tick it is good to be aware of the symptoms of Lyme Disease as they will not appear immediately:

A characteristic rash or lesion develops a few days to a few weeks after the bite of an infected tick. The rash generally looks like an expanding red ring with a clear center, but it can vary from a blotchy appearance to red throughout. Sometimes there are two or more lesions. Sometimes patients never get a rash, making diagnosis difficult. At about this time, flu-like symptoms may appear along with headache, stiff neck, fever, muscle aches, and/or general malaise. If you experience any of these symptoms, seek immediate medical treatment.

3. PROPER FOOD STORAGE

Prevention & Responding:

When not being consumed or transported, all food and trash must be suspended at least 10 feet off the ground and four feet from the nearest limb or trunk. The bear lines we use will allow us to do this easily. If a bear does acquire your food, common sense would warn you to let them have it while slowly moving away from the bear.

4. WATER TREATMENT

All water in the Smokies MUST be boiled or filtered by a high-grade water filter. We will be taking one water filter and one iodine kit (as back-up). I will train you in how to use them when we reach our campsite.

5. OTHER HIKERS

The Smoky Mtn trails are highly traveled, largely because the Appalachian Trail runs the full length of the Smokies. The ranger I spoke with told me that most people wanting to cause trouble are probably not going to have the motivation to hike beyond 2-4 miles from a trailhead. We will be around 6 miles out, so I do not predict we will have problems with people. Theft is unlikely, but is probably the highest risk. There has been a reported increase in theft along the Appalachian Trail. Below are some specifics on avoiding problems with other hikers.

Prevention:

As a group of women, we will be more cautious than others on the trail.

Give no specifics of our hiking/camping plans.

Avoid giving detailed information about which campsite we will be at, how long we will be traveling, and certainly do not explain that we will be spending a day in solitude and fasting. For example, if someone asks, "Looks like you guys are spending a couple days out here. Where are you heading to?" A reply could be, "We're not sure yet. It may depend on when we're tired." I am comfortable with half-truths in situations like this. If we're together as a group, just wait for me to answer for all of us.

Avoid extensive conversations.

It is fun to get to know people, but this may not be the best context for us to have extensive conversations with other hikers or people at our campsite. You can be friendly, but it would be wise not to extend a conversation that would cause the person to want to come back later for more conversation.

Be aware of your surroundings.

If someone seems to be following or initiating a lot of conversation with you, let someone else in the group know of your concern and stay near camp.

Responding:

If you feel any concern with people in the campsite or while you are alone during the times of solitude, immediately return to another person in our group. Even on the day of solitude, it is more important for you to communicate concern than to be in potential danger.

6. FALLING / STREAM CROSSINGS

Drowning is one of the leading causes of death in the park. Innumerable injuries have resulted from people swimming and riding inner tubes in park waters (though usually not in the backcountry). Wilderness Safety experts report that the most common injury in the backcountry is injuries at a water source. When people are filtering water, they are often tired, they are standing on or near wet rocks, and they are leaning over running water.

Prevention:

- Be extremely cautious when collecting and treating drinking water. Being near the water and on slick rocks can be hazardous.
- Be careful during storms as rocks become very slick.
- Do not enter steep areas off the trail. There are many parts of the trail that have steep grades on either side. Do not attempt to ascend or descend these steep areas.
- Do not climb. It can be tempting to find a cool spot to spend time with God, but cool spots that require climbing or crossing rivers are not worth it. Make sure to stay away from areas where you would be required to use hands and feet to get somewhere.
- Do not attempt stream-crossings that do not have a bridge unless you are traveling with others. Even when traveling with others, do not attempt to cross a stream where there are not visibly dry rocks that have been pre-set as stepping stones for crossing. Never enter streams where water would go above the ankle.

Responding:

- If you find yourself accidentally swimming in fast moving water, do not try to stand up.
- Most drownings result from getting a leg or ankle caught in an underwater rock ledge or between boulders. The force of the water will push you over and hold you under.
- The standard defensive swimming position in fast water is lying on your back with your feet pointing downstream and toes up towards the surface.
- Always look downstream and be prepared to fend off rocks with your feet.



[National Park System - Water Safety Guide](#)

7. ALLERGIC REACTIONS

Prevention & Responding:

- Each participant in WLT is responsible for communicating ALL allergies to their team leaders.
- Participants are responsible for knowing and communicating what happens when an allergy occurs.
- The participant also is responsible for knowing how the allergy is to be treated. They are also responsible for carrying any medications that would be necessary for treatment.
- An example: Stacey has an allergy to bees. She communicates this to her leaders and to her team members. When she is bit, she knows that her hands and arms swell excessively. In order to treat the allergy, she knows that she must take a prescription medication from her doctor. Before the trip, she has obtained this medication from her doctor. Additionally, she has told her team that this medication is located in the lid of her backpack in her first aid kit.

8. BURNS

Prevention:

- Do not lean over fires or steam
- Be careful of hair and clothing around your fire
- Don't build your fire too close to your tent; be attentive to the wind and sparks being blown around.

Responding:

- If a burn occurs, keep the burn in cool water for about ten minutes – the underlying tissue continues to burn even though removed from the heat source. Don't pop burn blisters. If they do pop apply a thin layer of antibiotic or second skin. Cover burn with gauze or clean clothing – make sure it can 'breathe'. Don't use ice or snow on the burn – unless it is the only immediate thing on hand at the moment the burn occurs.
- If you catch fire, smother flames or douse with water immediately – don't flay at the flames as you are wasting precious time.
- Other Resources: [Burn First Aid from Mayo Clinic](#)

9. PRECAUTIONS IN DAYS OF SOLITUDE

- We will have periodic check-ins at least 2x during the day of fasting and solitude. Watches will be necessary so that you can be on time. Should someone not be at camp at the prearranged time it could end everyone's solitude as we would need to assume the worst and begin to search for the missing person.
- It will be important to remain hydrated during the fasting time. Be aware that you will need to filter your water before it is gone. With lack of energy, you will not want to wait until you are out of water and thirsty to go get more. A filter will be placed in a common location so that it can be used by everyone.
- If you travel farther than _ mile from the campsite, you will need to leave a note inside of your tent explaining the path you are taking and the location you are planning to get to. Don't hike a distance away from the camp that you begin to feel uncomfortable with – this is not the time to challenge your orienteering skills.
- In the evenings, everyone will need to return to camp by a designated time (probably a couple hours before sunset). We will determine upon arrival by what means we will confirm that everyone has arrived.

- Carry your first aid kit and your knife with you at all times.

10. DEHYDRATION

Dehydration is common with any exercise, but it is more common in warm weather and in high altitude. We might expect that our thirst would let us know when we need to take in more water, but this is not always the case. It is necessary to consume water well before we become thirsty. On the trail, one of the early signs of mild dehydration is headaches. Headaches and other symptoms from dehydration are highly preventable.

Prevention:

- Be especially-hydrated the day before leaving for the trail.
- Avoid coffee and eat only a moderate amount of salted food both before and during a hike.
- Consume water, especially during the beginning of a hike before you feel thirsty.
- Be well-fed.
- Watch for some of the warning signs of dehydration: headaches, feeling light-headed, decreased urination, brightly-colored urine, dry mouth, increased heart rate and muscle weakness.

Responding:

- Drink lots of water.
- Expose the person to cold water or cooling methods such as fanning.
- Other resources: [GORP on Hydration](#)

11. HYPOTHERMIA

Our camping site will be at one of the highest spots in the Smoky Mountains. Daytime temperatures could be very cold if rain or fog settles in. Nights have the potential to be even colder. When there is rain AND cold temperatures, the risk of hypothermia is greatest.

Prevention:

- Stay dry by using proper raingear and wearing non-cotton clothing.
- Keep your tent and belongings dry by using a proper rainfly for your tent and rain cover for your backpack.
- Wear layers so that clothes can be added and removed when necessary. Make sure your outer layer is waterproof and is easily accessible from within your pack.
- Eat properly and drink plenty of water.

Responding:

Please read the website below thoroughly. It provides a quality explanation of the causes, symptoms and treatment of hypothermia
[Princeton University guide to Hypothermia](#)

12. EATING AFTER FASTING

Given that our fast is only one day, there are only a couple of important guidelines. Start the day with something simple like bread and don't overeat. Overeating will lead to nausea. Stop

eating when you feel full. Chew your food well. It is also advisable to continue drinking water to help flush your system of the toxins that have been released as a result of the fast.

13. KNIVES, TENT POLES, AND TREE BRANCHES

Prevention:

Be careful when using your knife. Don't take chances that could result in cutting yourself. One slip and you could be dealing with a life-threatening situation. Even if it isn't serious it is a hassle having to constantly care for a cut. Tent poles have a way of poking themselves into eyes and other sensitive areas. Also be aware of tree branches when you're intent on doing something else, like setting up your tent. When breaking branches for firewood be careful as you are using your feet or hands to break them in two. Overall, don't rush in any of these activities, think about what you are doing and be aware of your immediate surroundings.

14. LEAVE NO TRACE

National Park Service standards:

- Toilet use must be at least 100 feet from a campsite or water source and out of sight of the trail. Human feces must be buried in a six-inch-deep hole.
- All trash must be carried out.
- All plants, wildlife, and natural and historic features are protected by law. So not carve, deface, or cut any trees or shrubs.
- Polluting park waters is prohibited. Do not wash dishes or bathe with soap in a stream.

Our greatest goal with safety is prevention. We can do a lot to eliminate the risk of the issues discussed above. Please read through this manual twice to make sure that you have a basic memory of the major safety issues we will encounter. In particular, be especially familiar with the material on bears, storms, hydration and hypothermia. Before beginning our trip, we will take time to further discuss some of the safety issues communicated here.