

# PHƯƠNG HƯỚNG WORKSHEET

Article by Dan A. Nelson

Wilderness legend Daniel Boone once wrote, "I have never been lost, but I will admit to being confused for several weeks."

Lots of hikers, hunters, skiers and snowshoers lose their way in the woods each year, but only a few are truly lost. There is a world of difference between being lost and simply not knowing exactly where you are. For example, a novice hiker who missed a trail junction can feel lost and confused even when standing on a well-maintained backcountry trail. "Everyone will react differently to various situations," said Tim Williams, chairman of Seattle Mountain Rescue. "But once they are 'lost' and in need of assistance, there are some simple, common things anyone should do."

First off, Williams says, stop where you are. Have a snack and something to drink and calmly check your map, consider your options and figure out what needs to be done. The difference between not knowing exactly where you are and being lost generally comes down to this: panic. As anxiety and panic creep into the mind, rational thought fades away, this is when bad decisions are made. "Typically, it's not one bad decision," William notes. "It's incremental. Little mistakes that build on one another until you find yourself in trouble." So, according to wilderness survival experts, the first rule of "staying found" is staying calm.

## Seek Out Shelter

"Find yourself some shelter from the elements, but stay in one place," Williams said. "It is much easier for (Search and Rescue) to find a stationary object than a moving target." The hiker lost in the North Cascades in late September violated this rule, trying to hike out. She reportedly left notes along her path, but later seemed to have changed her mind, so while her notes said she was traveling down valley, she later decided to change direction and hike uphill. Searchers found some of her notes, and later found her. But her rescue might have been much quicker if she had stayed at the location of her first note.

Williams said the important things folks can do to ensure quick rescue should they get into trouble include:

- First, leave a detailed itinerary with someone before heading out. This should include such details as the trailhead you plan to use, the destination of your hike and your estimated time of return. It should also include some possible contingency plans. For instance: Though you may expect to be back at home by 6 p.m., you might explain that seasonal conditions could prevent you from getting back to your car until after that time, so you shouldn't be reported missing immediately - wait until morning. Road and trail conditions may force you to choose a different route. Have your secondary plans detailed in your notes as well, so searchers will have a second - or even third - trail to check should your vehicle not be found at the first trailhead.
- Be prepared. Any day hike, snowshoe trip or even out-of-bounds ski trip can easily turn into an overnight adventure. Be prepared to spend the night, if not in comfort, at least in safety. An emergency blanket, a light source, extra food and water and warm clothes can help you get through an emergency overnight bivouac safely.
- Stay put. Once you are sure you are lost or in need of help to get out, stay put. If you are in a group, stay together! Separating just doubles the work the searchers will need to do to get you all safely off the mountain.
- Always carry a cellphone and GPS, but don't rely solely on them. Cellphone coverage is spotty at best in the mountains. If you do get a signal, it is vital you be able to tell the responding agency (usually the county sheriff's department) your location, and a GPS can provide pinpoint locations for the searchers. Note, however, Williams' warning: "If you do get through to 911 and initiate a rescue, it will likely be several hours at least before those folks get to you, so you need to be prepared for a long stay regardless."
- Mark your location. A brightly colored tarp or jacket (bright orange is best) can stand out against the dark landscape of the forest. If you are traveling in snow, Williams suggests carrying a couple packages of cherry or strawberry flavored Kool-Aid. If lost, find an open area and sprinkle powdered drink sparingly over the snow in an X shape - the color will bleed out into the snow, creating a bright red marker that can be seen from helicopters.

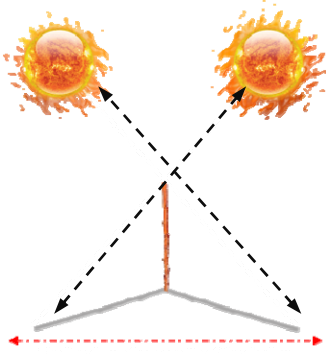
## Be Prepared

Always prepare for the contingency of getting lost or stuck outside overnight (or longer). But with proper planning, you can avoid the need for rescue in the first place. Some things you can do:

- Carry and know how to use a map and compass. Use these during your hike or snowshoe outing so you are familiar with the area you are passing through. That makes it easier to navigate out should you become disoriented later.
- Carry and use a GPS device. Familiarize yourself with the unit's operation before heading out. If you store the location of the trailhead before starting your hike, it's easy to use the "track-back" feature that's built into the device to find your way back to your car from any location.
- Familiarize yourself with the area before heading out. If you don't know the specific region you plan to travel, study maps before heading out, and if possible, talk with Forest Service rangers or other users to get specifics about trails and possible navigation hazards/difficulties.

## Techniques to Find Your Bearings

### Shadow Tip Method



Find a sunny area on the ground. Avoid using this method in the middle of the day. During noon, the shadow will shrink and almost disappear because of the high position of the sun. This will not be optimum to give you an accurate East-West line.

Locate a stick, branch, or other long thin material (such as a tent pole section). Plant the stick or pole firmly in the ground. Mark the top edge of its shadow on the ground. Use a pebble or other item to make the mark. Wait 10-15 minutes (the longer you wait the more accurate the line will be), and mark the top edge of its shadow again.

Draw a straight line on the ground between the two marks. This is the East-West line. Since the sun rises in the East, our shadow moves in the opposite direction across the ground, so the shadow will move West to East. The first mark on the ground is West and the second mark is East.

If you would like to find the North and South direction, just stand perpendicular to the East-West line you made with the first shadow mark to your left hand side. You are now facing due North.

An alternate method is more accurate but requires more time. Set up your shadow stick and mark the first shadow in the morning. Use a piece of string to draw a clean arc through this mark and around the stick. At midday, the shadow will shrink and disappear. In the afternoon, it will lengthen again and at the point where it touches the arc, make a second mark. Draw a line through the two marks to get an accurate East-West line.

### Analog Watch Method

You can also determine direction using a common analog watch. The direction will be accurate if you are using true local time, without any changes for daylight savings time. Remember, the further you are from the equator, the more accurate this method will be. If you only have a digital watch, you can overcome this obstacle. Quickly draw a watch on a circle of paper with the correct time on it and use it to determine your direction at that time.

In the Northern Hemisphere, hold the watch parallel to the ground and point the hour hand at the sun. Bisect the angle between the hour hand and the 12 o'clock mark to get the North-South line (the red line in the picture to the left). If there is any doubt as to which end of the line is north, remember that the sun rises in the east, sets in the west, and is due south at noon. The sun is in the east before noon and in the west after noon. **NOTE:** If your watch is set on daylight savings time, use the midway point between the hour hand and 1 o'clock to determine the north-south line.

Another method is called the 24-hour clock method. Take the local military time and divide it by two. Imagine this result to now represent the hour hand. In the Northern Hemisphere, point this resulting hour hand at the sun, and the 12 will point north. For example, it is 1400 hours. Divide 1400 by two and the answer is 700, which will represent the hour. Holding the watch horizontal, point the 7 at the sun and 12 will point north. In the Southern Hemisphere, point the 12 at the sun, and the resulting "hour" from the division will point south.



### Using the Moon

Because the moon has no light of its own, we can only see it when it reflects the sun's light. As it orbits the earth on its 28 day circuit, the shape of the reflected light varies according to its position. We say there is a new moon or no moon when it is on the opposite side of the earth from the sun. Then, as it moves away from the earth's shadow, it begins to reflect light from its right side and waxes to become a full moon before waning, or losing shape, to appear as a sliver on the left side. You can use this information to identify direction.



If the moon rises before the sun has set, the illuminated side will be the west. If the moon rises after midnight, the illuminated side will be the east. This obvious discovery provides us with a rough east-west reference during the night.