

## What to do if Lost

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OK, it's happened. In spite of all your caution (or maybe because of your lack of caution) you're lost (or maybe just "temporarily confused"). You don't know how to get back to the trailhead or camp. Now what do you do?

First, check for immediate danger such as storms, avalanche hazard etc. Deal with any such dangers. Then do \*nothing\*. Sit down, take it easy, try to calm down. Look at the pretty scenery. Maybe you'll notice something you recognize. (However don't be hasty about "recognizing" landmarks. Remember you may want to see something familiar so badly that you don't notice that it isn't really what you want it to be.) Of course if the weather is nasty you may need to start seeking shelter. If this is the case try to find or build shelter quickly and close by. If you are in a group, discuss the situation and try to keep everybody calm (especially yourself). Try to keep the group together unless there is a \*compelling\* reason to split up. And no, disagreement over what to do is not a compelling reason to split up.

A good procedure outline is:

1. Protect yourself from immediate danger. This includes treating any injuries you or your companions have.
2. Calm down and see if you can orient yourself.
3. Stay put except in unusual circumstances.
4. Provide clues to assist searchers.
5. Improve your comfort if feasible.
6. Respond to searchers (answer calls, walk to smoky fires or to sounds such as prolonged honking of car horns).

Protect yourself:

The most common immediate danger in the backcountry is weather. Shelter is discussed below under "Improve your comfort." Also be aware of any injuries and treat them appropriately.

Try to orient yourself:

It may help to get on a hill or somewhere else with good visibility. However don't go miles across the countryside to do it.

Use your compass if you have one.

Refer to a map (again being careful not to see what you want instead of what's really there).

If you have no compass try to find one of nature's direction indicators. The north star, indicators of prevailing winds such as moss and tree branches (\*if\* you have had the foresight to previously notice which way they point). If the sun is out drive a stick in the ground and mark the location of the end of the shadow. The end of that shadow will move west to east.

If you're really lucky you may "find yourself" and be able to return. However, be \*certain\* you're not fooling yourself before you move. (Even if you are certain leave markers for yourself or searchers indicating direction of travel and if possible your name and the time and date.)

Don't let your embarrassment cloud your judgment. Don't be afraid to admit you are lost, either to yourself or to any potential rescuer. (I remember one teenage couple we found when the girl heard us and attracted our attention by yelling. She wisely ignored her boyfriend's instructions to be quiet. He still wanted to find the way back and not admit that they were lost. This after an unexpected night in the woods!) Humble pie may not suit your taste but it's a \*lot\* better than the likely alternative. Nearly everybody has been "temporarily misoriented" a least once so don't feel too badly about it (but \*do\* let it motivate you to be more careful next time).

### Helping Searchers

Unless you are in immediate danger the most important thing you can do is help the searchers. You cannot help leaving clues and SAR personnel look on the lost person as a clue generator. However you can make the clues much more obvious and effective if you just give the matter a little thought and creativity. Remember there is only one of you and you are only in one place. However you can leave an unlimited number of clues in many places. If these clues point to your location searchers will probably find you much more quickly. Consider yourself a partner in the rescue effort. Your job is to stay alive and healthy and provide clues to help the searchers.

Clues can provide positive identification of who you are and how to find you. You can put notes in obvious places with your name, date, and the direction from the note to your location. Try to put something obvious near the notes: rocks spelling "help" or "SOS," messages stomped in the snow, large sun-bleached tree branches spelling out your message etc. Try to make these markers visible from both air and ground. Put them on two or three sides of a hill, visible from different directions. If weather makes it impractical for you to stay in open country or on top of a hill, at least put clues there.

Then try to also leave something to indicate where you are from the clues. You can leave notes, scratch arrows into the ground or snow, or use sticks to make arrows pointing to your shelter.

Don't think you need a pencil and paper to leave a note. Such tools came \*long\* after the invention of writing. Be creative. You can write with mud on a rock, with a rock or stick in the dirt, scratch messages on wood with a pointed rock etc. The lead tip of a bullet can write on rocks or paper though contrast is low. Any note which is not glaringly obvious should have something beside it to attract attention, for example a large SOS made with rocks.

One of the best clues is a fire, smoky in the daytime and bright at night. If you can safely build a fire, do so. (However be very careful with it, if it gets out of hand you may be the first victim.) The smoke or light can be seen a long way and bring rescuers quickly. It is also a great comfort to you and in cold weather can be a lifesaver. Determine how much fuel is available and govern your fire accordingly. It is wise to keep some green branches and dry wood handy for when you think searchers are in the area.

Obviously yelling and blowing a whistle or other loud sounds provide excellent clues when searchers are within earshot. Try to make your sounds distinctive: yell "help," blow whistle blasts in groups of three etc. If you are using a firearm to attract attention, be very careful to shoot into the ground away from rocks etc. Never shoot into the air which or anywhere else that does not allow you to know where your shot is going. Rescuers do not appreciate being shot at.

In the US, three repeated sounds is a universal distress signal. However some countries have different "universal" distress signals, sometimes six or more repeated sounds. This can be a problem for travelers so inform yourself ahead of time.

## Stay Put

Usually you should stay put. (You may want to move a couple of hundred meters a more comfortable or visible position but that is about the limit under most circumstances.) I think there are only three good reasons for a lost person to try to get out instead of staying put:

1. There is almost no chance of timely rescue. You are not expected back for two weeks, or you were real dumb and nobody has the slightest idea where you are. (Even if nobody knows where you are, a vehicle at the trailhead that will provide a starting point for a search.)
2. You are confident that even though you are lost you can make it to some form of civilization in a reasonable time. Maybe you know there is a road to the west and you can reach it in a few hours. Even if it's not the road where your car is, someone will eventually come along. **Be careful.** What's between you and that road? Cliffs? An

uncrossable river? Thick underbrush? Terrain features not obvious on a map may significantly slow or even totally stop your progress. If this happens you will have expended a lot of valuable energy removing yourself from the area most likely to be searched.

3. You are in immediate danger. Again don't be hasty. Discomfort does not constitute danger. You can survive a lot of cold, hunger and wetness. As a rule of thumb a person can survive about 3 times as long as expected. If you are in a rockfall or avalanche zone get out of it. However, there are few real dangers which would require you to move more than a couple of hundred meters.

As I write this paragraph, the Wasco County, Oregon Sheriff's Department has just suspended the search for a 17-year-old elk hunter who apparently did not stay put when he got lost. The area where he was last seen and surrounding vicinity has been searched several times without even finding a solid clue. Of course we can't know for sure what happened but the most reasonable guess is that he walked out of the area in some unknown direction. There is some indication he may have built fires and/or shelters in the area but did not stay with them. Had he stayed he would almost certainly have been found by now. As it is, if he isn't dead he probably will be soon. I expect that in a year or so another hunter will happen upon the remains.

(Update on the lost hunter. Almost a year after he was lost some other hunters found his pack and rifle. Further searching found enough bones etc. to identify the remains from dental records. He was 10 miles from the search area. The theory that he walked out of the area appears to be correct. If a lost person has traveled that far from the last known point there is very little chance searchers will find him. It simply isn't feasible to search everything within a 10 mile radius. That is over 300 square miles!)

If you do decide to move, mark your trail \*well\*. It will help the searchers or you may want to return. Leave as much information as you can: name, time, date, direction of travel etc. You are now a moving target and much harder to find. Furthermore you may find unexpected difficulty and have to backtrack. Make it easy to do so. (And turn those pointers around so they point to your current direction.)

Be careful if you move. You are in enough trouble already, you don't need to fall over an unexpected drop-off or get soaked in a creek. It may be especially tempting to travel at night when the temperature is lowest but that is also the most dangerous time, hazards are less obvious. Of course the tendency of a lost person to travel in a circle is well known. Avoid this by picking out landmarks ahead and traveling toward them, or use your compass.

Again, be \*very\* reluctant to travel. Almost always (at least in areas like the 48 contiguous states) a lost person is better off to stay put and wait to be found.

Improve your Situation

So if you stay put, what should you do? The biggest enemies are boredom and fear. Sitting around waiting to be found can be \*devilishly\* hard. Minutes seem like hours and hours never end. You probably get cold, hungry, and thirsty and you wonder if maybe you should try to walk out after all. Fight that by doing something but try not to waste energy. Again the best use of your time is probably deliberate clue generation as above. After you do that (or maybe even before if weather demands it) you will want to improve your situation. Both activities will give you a psychological reason to stay put as well as increasing your comfort and chances of being found.

One real question is where to set up your temporary home? You will be easier to find if you are in the open, on top of a hill etc. However those places also expose you to the weather. You will have to decide based on the weather, your equipment and clothing, etc. Again, if you decide to move into a less exposed area try to put a marker in an exposed place with an indication of where you are. Find a place for your shelter (build it if weather demands). Then start placing clues, working outward from that shelter, each clue pointing either to the next pointer or to the shelter. The idea is that a searcher (or you) can spot any of these clues and follow them to the shelter. You can use arrows made from sticks or scratched into the ground (put rocks or something with them to call attention to them) etc. Make them close enough together that you can easily see from one to another.

Try to improve your situation. Find a protected place to sleep and see if you can make it more comfortable. Most jurisdictions permit cutting of vegetation to make shelter in emergencies. Do the best you can with the materials and tools available. Again, creativity helps, bark or roots can be used as string, natural features provide the start of shelters, etc. Make the shelter as obvious as you can, searchers routinely check inside any shelter they come across.

Ration your food and water. The object is to survive until help arrives, not eat or drink till you are satisfied. If water is plentiful and you have a way to purify it, go ahead and drink. If you have no way to purify it you may be better off thirsty for a couple of days. Exception: If you are getting cold, you should avoid dehydration. In this case you will have weigh the risk of disease against the risk of hypothermia. Neither is trivial, especially since most water-borne illness also tends to cause dehydration and otherwise interfere with metabolism.

(I will add here that rationing is somewhat controversial. There are some that advocate eating and drinking normally until supplies are gone. The theory is to keep your body energy up at first and use that energy to improve your situation with shelters etc. While hard work may be necessary for brief periods in very bad weather, I don't think such is usually the case. Furthermore you can dig a snowcave for example without being too hard on supplies. Just work more slowly. Your body does tend to eliminate excess, especially water. If you eat and drink to the satisfaction point some will be wasted. Of course if you are qualified in survival skills you will be able to get food and water to your heart's content. In this case forget the rationing.)

Clean snow is likely to be relatively free of disease-causing microbes. However be very careful about eating it. The latent heat of melting will require a tremendous energy expenditure on your part. Either it will make you cold or it will cost valuable calories. If you have a means of melting it, go ahead and then drink the water. If you are overheated you may eat a little snow (but overheat is usually caused by overexertion, avoid that at all costs). Ration *\*all\** calories, both from food and the energy stored in your body. That means don't work harder than is necessary. Except for providing necessities this is a good time to be lazy.

Food may seem like an urgent necessity but in reality most people can go for days without eating and suffer no long-term damage. Aside from rationing you may or may not be able to safely supplement your supplies. Be very careful in choosing what to eat. Hunger is a lot better than potential poisoning or disease. If in doubt, don't eat it. Meat may be the easiest safe food to obtain *\*if\** you can cook it and aren't too persnickety. For example grubs will provide a lot of energy (ask any bear). Fry 'em up and they will fill your need for fats. I haven't tried it personally but someone who did assures me they don't taste too bad either. Porcupines are easy to catch, with our tool using ability we can avoid the quills. Many insects are edible if not appetizing and they are available almost everywhere. Of course cooking kills microbes and reduces the risk of disease from any of these critters. If you can't cook these, leave them alone.

Remember, avoid anything that might spread disease, you really don't need to get sick on top of everything else. Water is definitely higher on the priority list than is food. If you can obtain safe water you will be a lot more comfortable and able to survive longer.

I'm not going to go into much here about long term survival. This is not the place for it even if I was qualified. If you do learn about this subject it will be to your advantage. Even if you don't you have an excellent chance of being rescued in good shape if you get lost. Use your head and follow a few basic principles. It will not be pleasant. However if you act prudently you will almost certainly be found safe and in good shape in most areas of the US.

#### Appendix 1: Your preparation

Obviously the best thing you can do for yourself and the search team is to avoid getting lost or injured. The best "rescue" is the one that is never needed. However just in case you have trouble there are some things you should do before you leave home:

1. Carefully consider your plans and what could go wrong. Prepare accordingly or maybe modify those plans. No rescue can ever be as good as prevention.
2. Be certain an in town contact knows where you plan to go, when you plan to return and whom to call if you do not return as scheduled. And please, when you return let that person know you are back to avoid a "bastard" search.
3. If you alter your plans do all you can to inform your contact or someone else. Otherwise searchers may be sent to the wrong place (or sent out when they don't need to

go if you are in fact OK).

4. Take enough equipment and supplies to handle an unexpected extra night or two out. See the "10 essentials" list elsewhere on this site.

5. Do a last minute check just before you leave:

- a. Be sure everything is really in your pack.
- b. Check weather and other conditions that may change.

6. If weather or something else changes alter your plans if appropriate (and inform your in town contact of the change).

## Appendix 2: How Search Teams Work

Knowing how a search proceeds may help you place your clues as well as understand why it takes so long to be found. You typically realize you are in trouble and start hoping for rescue long before you actually see a rescuer. This wait is difficult don't give up. It may make it a bit easier if you know why it takes so long.

First, be aware that searches do not start the minute you get lost. Nobody is going to come looking for you until you are reported overdue. Your in town contact should contact the sheriff's office (or other agency if SAR is not a sheriff's office responsibility). The SAR deputy will evaluate the situation. If someone can give good evidence that you are in trouble (eg. they saw you fall or heard cries for help) rescuers will be called immediately. Otherwise the deputy will probably check things out before starting a search. Is your car really still at the trailhead? Are you in the latrine or a nearby bar?

Only after the deputy is satisfied that there is a need will SAR personnel be called out. Then since most of them are volunteers it usually takes hours for the search to actually start. Rescuers have to leave their jobs or families, pack the necessities, and drive to the staging area. The search may also be delayed by the necessity to plan and organize. It makes little sense to just send people out "thataway" without coordination and intelligent direction.

The planning team will try to determine a reasonable search area and divide it into manageable sectors. Each sector will be assigned a probability based on how likely the team thinks it is you are in that sector. High probability areas will be searched first (if appropriate resources are available). This team will also decide what type of search they want for each sector. Normally few if any searchers leave headquarters until some planning is done.

Then depending on circumstances it may take more hours for a team to reach its assigned sector. Of course the search itself also takes time. If they find you, great. If not, they report back any clues they may have found and how likely they think it is they would have found you had you been in that sector. Based on this information the search may be redirected.

It may help place your clues if you know how a typical search and rescue operation proceeds. Usually the first searchers into an area are "hasty teams," small teams lightly equipped and assigned to search the areas of highest probability. They check known shelters, areas near where you were last seen, open areas where you might go to try to be seen, etc. This is a reason to not move far, you will be leaving the areas likely to be searched first. Try to place some of your clues in these obvious areas and you will likely be found faster. Searchers usually carry binoculars so clues on open hillsides are very effective. Hasty teams typically have very limited manpower so they can search only the most likely spots. Try to put something there to help them.

Hasty teams and other ground searchers also typically try to make a lot of noise. If you hear them of course you should respond. They will yell, blow whistles etc. Portland Mountain Rescue protocol is to blow two blasts on a whistle and maybe yell, then listen for a few seconds for a response.

Depending on weather and availability, air searchers may also arrive quickly. Obviously they can search open areas more effectively than dense woods and brush. Try to stay in the open and have clues visible from the air. If you see an aircraft which appears to be searching for you the best position is spread eagle, flat on the ground. You will be easier to see that way than in any other posture. Aircraft may be either helicopters or fixed wing. Obviously a helicopter has much better ability to pick you up but fixed wing aircraft are often more readily available. Of course if you are spotted from an aircraft you should stay put till they can get someone to your location.

Other searchers likely help out are dog teams and trackers. Trackers will be looking for clues in places like "track traps," areas you may have been which show tracks easily. Dog teams are usually assigned to areas of highest probability and will try to pick up your scent.

Larger teams of ground searchers may also be deployed. With more people available the search can expand to a wider area than what was possible with the hasty teams etc.

Depending on the situation, special skill resources may also be called. These include water rescue units, technical climbers, cave searchers etc. Searchers will not be assigned to tasks they cannot carry out safely so if you are in a hazardous place you can expect to see these specialists rather than ordinary searchers such as explorer scouts. Of course that also means a delay if those specialists are not readily available. Be patient.

The idea of early stages of a search is to find clues. Of course searchers will be happy to find you (referred to as "the ultimate clue") but they know there are more clues than lost people. Typically they find clues in some places and not others and then move personnel to the areas where the clues indicate you are likely to be. Most searches end fairly soon after the early stages because the clues reduce the area and often point quickly to the actual lost person.

Another search technique often used is confinement. People will simply wait at natural boundaries such as passes and stream crossings. The idea is to intercept you if you are about to wander out of the area. Your part in this is that you should \*never\* cross roads or natural barriers. The first assumption is that you will wait there so the search is confined to the prime area until it is rather certain you are not there. Vehicle searchers usually patrol the roads and will probably find you quickly if you just sit tight.

A common method is the use of attractors. An attractor is anything you are likely to see or hear and be attracted to. Common attractors include the aforementioned whistles and yelling by search teams. These are moving attractors so the best response is to yell or whistle back to get searchers attention, then wait for them to come to you. Other attractors are fires (bright at night, smoky during daylight), car horns, sirens etc. You may have to walk to them since they are stationary and probably too far away for your voice to be heard.

Later stages of a search may involve "grid searching," lines of people spaced 100-300 meters apart (open grid) or closer (closed grid). If you leave appropriate clues the search should never reach this stage. This is manpower intensive, slow, and often reserved for when we think we are looking for a body or an unresponsive subject. Try to leave enough clues to be found without this technique, and certainly enough that closed grid searching is not necessary. Grid searching, especially closed grid, is so time consuming that lost people may die before being found if it becomes necessary.