Emergency Navigation

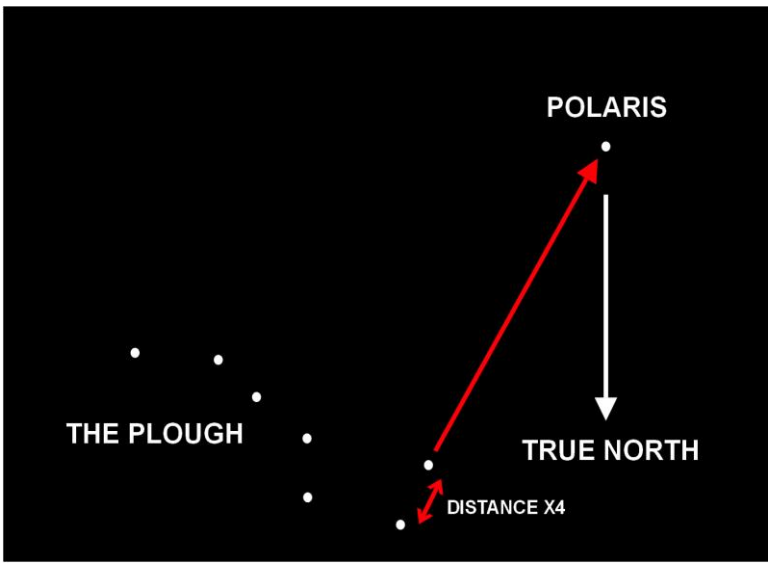
Imagine that you have just escaped from capture. All of your equipment, including any survival items have been confiscated by the enemy. You know that by travelling south you should get to safety, however, you have no means to navigate your way there.....or do you?

Nature provides us with ways to navigate without the need for a map and compass. The first thing to do is to look all around you. Observe the lay of the land. Make a mental note of all the features such as rivers, forests, hills and valleys. Try and relate the terrain that you can see with what you can remember about the locations that you have seen on maps or in aerial images. As you scan the landscape, is there anything that seems familiar to you?

There are several different ways to navigate with natural direction indicators. Most are weather dependant and some only work in daytime, with other methods only usable at night. Therefore, it is important to learn a few different ways of natural navigation. Also, when trying to identify a direction by using natural signs, use more then one technique to confirm the direction, as inaccuracies are possible by relying on just one method.

Polaris – The North Star

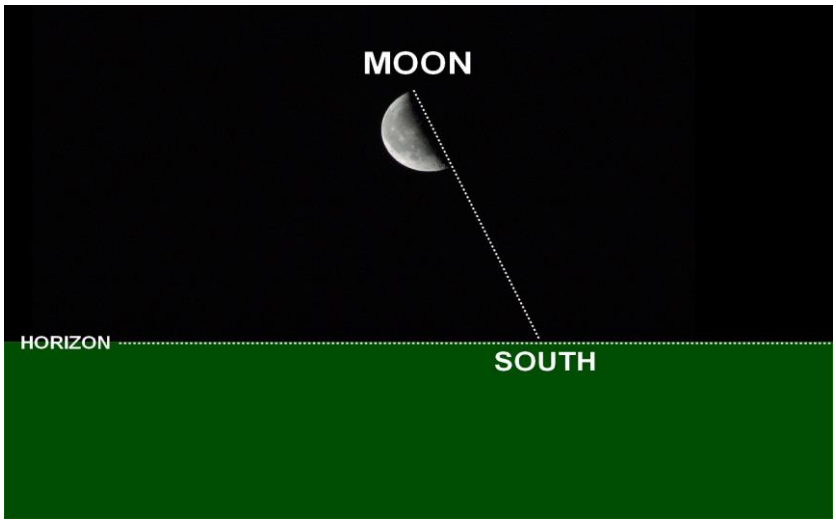
The chances are that if evading capture, you will be moving during the hours of darkness. If so, the way to navigate is by using the moon and stars (subject to cloud cover). In the northern hemisphere, the best method to start with is by using Polaris as it always points to true north (it is also known as the North star). To find Polaris on its own is quite difficult due to it not being very bright. So, look for the plough (also known as the Big dipper). The shape of the plough is easy to spot as it looks like a saucepan. Locate the two stars which form the side of the plough. Draw an imaginary line between these two stars and continue this line along until you reach Polaris. As a tip, Polaris is approximately x4 the distance away. Be aware that the plough rotates around through the different seasons of the year, so sometimes it may appear upside down, but if so, this method of finding Polaris will still work.



Finding Polaris

The Moon

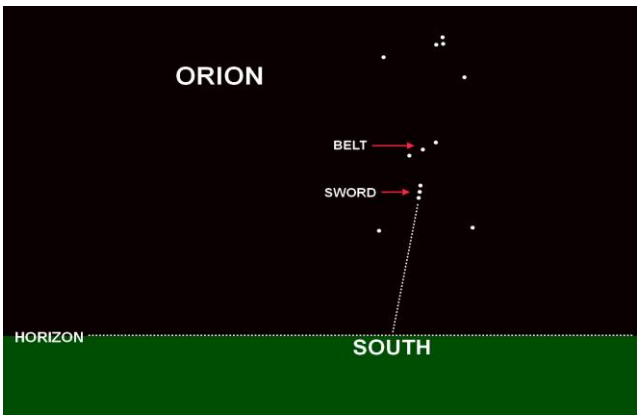
On a clear night, when a crescent moon is visible, there is a way of identifying a general southerly direction. When looking at the crescent moon, imagine a straight line joining the top and bottom angles together. Now continue this line downwards maintaining the same angle until it meets the horizon. The point where the line meets the horizon indicates a general south direction. This is not a 100% accurate indicator of south as on some nights you will find that the angle of the line points towards the south east, and on other occasions the line may point in a more south westerly direction. However, this technique although variable with the results, will get you facing towards the general southern sky.



Finding south using a crescent moon

Orion

In the northern hemisphere, the constellation Orion is visible in the southern sky during the autumn and winter months. It is possible to find south by using Orion's sword, as long as the constellation is up right and reasonably high in the sky. Locate Orion's belt which consists of three stars. Beneath the belt hangs the sword, which again, is made up from three stars. If you imagine a line joining the three stars of the sword together, and continue the line down until it reaches the horizon, it will point due south.



Finding south using Orion

The Sun

It is possible to navigate by using the sun. However, the effectiveness does depend on the amount of cloud cover and the time of day. As a rule the sun rises in the east and sets in the west, but this can vary slightly with the time of year. Regardless of the actual direction of the sunrise, the sun will track from the east via south and towards the west. If you have a way of telling the time, then the suns position at midday will point in a general southerly direction.

Wrist Watch

If you are wearing an analogue wrist watch, then you can find south by using the watch face and the sun. Hold the watch horizontally and line the hour hand up with the position of the sun. Then divide the distance between the hour hand and the 12 o clock position by half and then draw an imaginary line through the centre of the watch face, running along this division. The line running away from you will point towards the south. If you are wearing a digital watch, simply draw a watch face with hands showing the current time and follow the above procedure. Make sure that you have made allowances for any daylight saving time periods.

Locating south using the sun and a wrist watch

Stick and Shadow

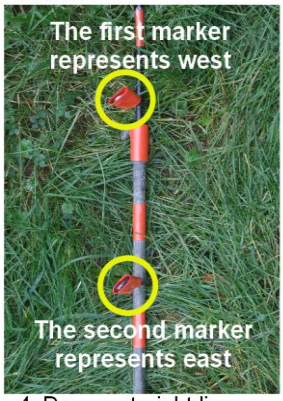
On a sunny day, you can use the shadow that is cast by a stick to determine the cardinal points. Select a stick approximately one metre in length and place it vertically into the ground so that it stays standing up right. The choice of ground should be somewhere that is well exposed to the sun, and is bare or has very short vegetation to allow a clear shadow to be cast. Look and see where the end of the sticks shadow is being cast and mark that point on the ground with a small stone or wooden stake. Wait at least twenty minutes and check the shadow. You will notice that it has moved. Mark the end of the shadow with another stone or wooden stake. Now draw a line between the two markers and you will have an east - west line. The first marker points west and the second one points east. From this you can now work out the direction of north and south.

STICK AND SHADOW

1. Insert the end of a one metre long stick into the ground

2. Place the first marker at the end of the sticks shadow

3. Wait 20 minutes and place the second marker at the end of the shadow which has moved



4. Draw a straight line between the two markers to give an east-west line

The Prevailing Wind

The prevailing wind direction in the UK comes from the south west. In exposed places such as hills and coastal areas the prevailing wind will sculpt the shape of trees and vegetation causing them to lean away from the prevailing wind. We know that the normal wind direction is south westerly, so an exposed and wind swept tree will be leaning towards the north east. From this it is possible to work out the direction of north and south. There is a degree of error with this method though, so do not just rely on one wind swept tree, but identify several different trees and note the general direction that they all lean towards before making any decisions. As well as trees, tufts of grass on exposed hills can also be effected by the prevailing wind. The long tufts of grass will look like they have all been brushed in the same direction which will be towards the north east. However, there is also room for error, so be cautious and confirm your findings with other natural navigation signs.

Wind swept trees leaning away from the prevailing wind

Tufts of wind swept grass all leaning towards the north east

Following a River

The old advice of 'if you are lost, then follow a river' may seem like an ineffective way of navigating your way to safety, but in reality, it is probably one of the more reliable ways of getting yourself out of trouble. Small streams join rivers and rivers flow near settlements, under roads and along side railway lines. Following a river is not going to directly show you which way north or south is, but it may lead you to a location that you can recall from memory which does.

To test this method, I put myself into the middle of Dartmoor on a day that had weather which could only be described as 'challenging'. After locating a spring at the bottom of a hill, and with visibility at almost zero because of fog, I started to follow the small trickle of water. The flow of water quickly formed itself into a small stream which became deeper and faster flowing the further I followed it. It was difficult ground to cover in some places because of marshes and bogs which had to be negotiated with care. It was easier to move away from the stream and keep to the high ground in places, but still keeping the sound of the flowing water in ear shot and to my right hand side. I kept returning to the bank of the stream as often as possible as the water course often changed direction without any warning. The water was snaking through the land and now providing a prominent feature to follow.

After a few miles the stream led me to a track with a ford crossing. If I had followed this track, it would have taken me to Okehampton Army Camp. Some distance further, the stream widened and turned into the East Ockment River. If I had continued to follow the river, it would have led me into the town of Okehampton.

Following a River

1. The spring

2. The stream soon starts to cut through the landscape

3. The stream soon leads me to a track which would take me to Okehampton Army Camp

4. As the stream merges with other water courses, it turns into a river. This is now the East Ockment River which would lead me into Okehampton

Summery

Remember that when the excrement has hit the fan, do not let panic take over. When you are lonely, scared and feel that you have nothing, just take a look around you. Remember what you have read in this article and you will soon realise that you are surrounded with everything that you need to get yourself safely home.