



OWEN SOUND

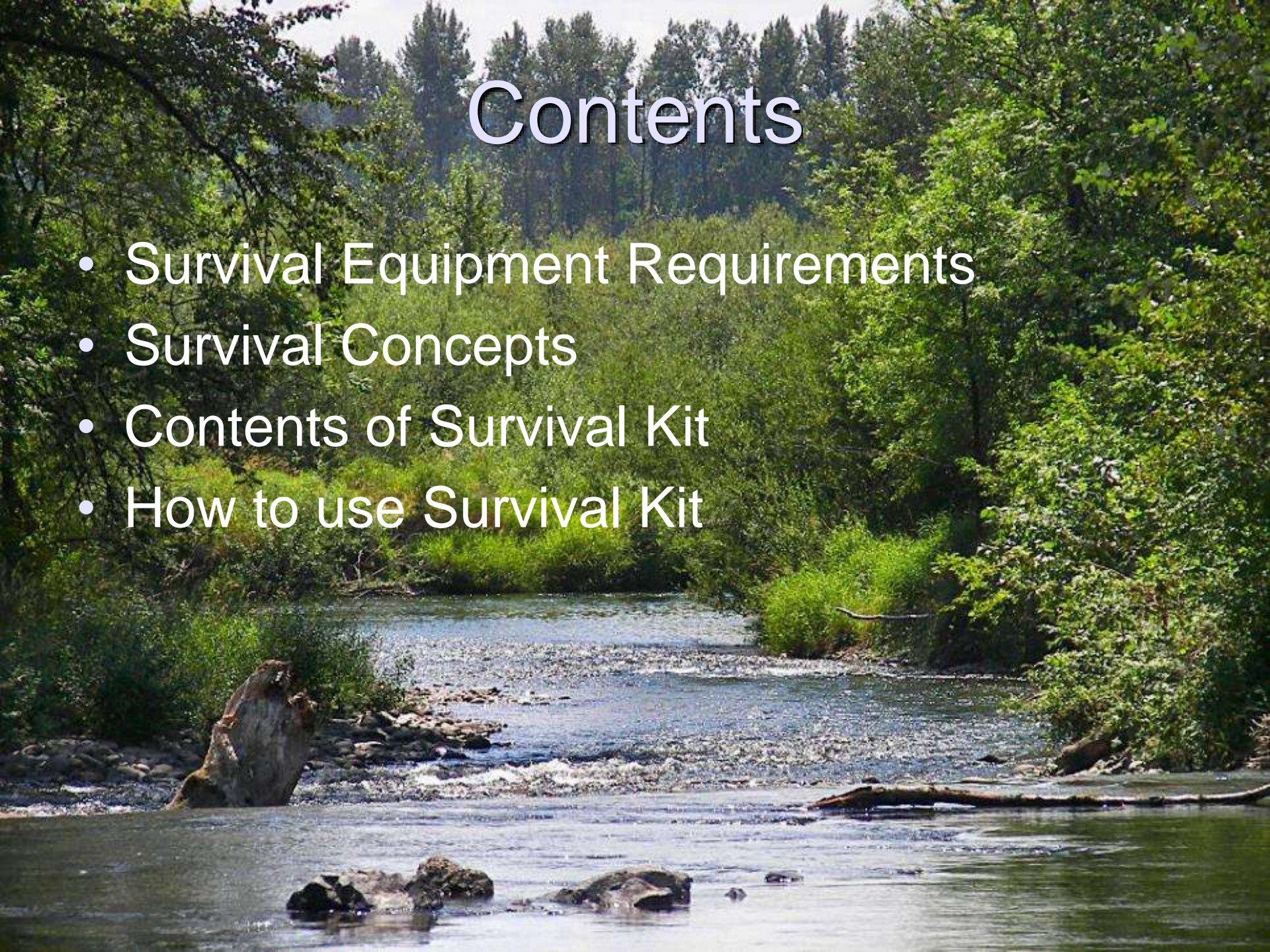
**FLIGHT SERVICES**



Survival Equipment  
Training

# Contents

- Survival Equipment Requirements
- Survival Concepts
- Contents of Survival Kit
- How to use Survival Kit



# CAR 602.61

- (1) Subject to subsection (2), no person shall operate an aircraft over land unless there is carried on board survival equipment, sufficient for the survival on the ground of each person on board, given the geographical area, the season of the year and anticipated seasonal climatic variations, that provides the means for
  - (a) starting a fire;
  - (b) providing shelter;
  - (c) providing or purifying water; and
  - (d) visually signaling distress.

# Survival Concepts

- **Basic needs for survival in the wilderness**
- We can define four basic human needs for survival in the wilderness. Warmth, water, sleep and food make up these four needs. The survivor challenge is to put these needs in a priority list. The priority will, of course, depend on what circumstances you are dealing with.

# Warmth

- Maintaining ideal body temperature is crucial when dealing with survival in the wilderness. Our bodies operate within a narrow temperature range. You can't get too hot or too cold, or you'll die.

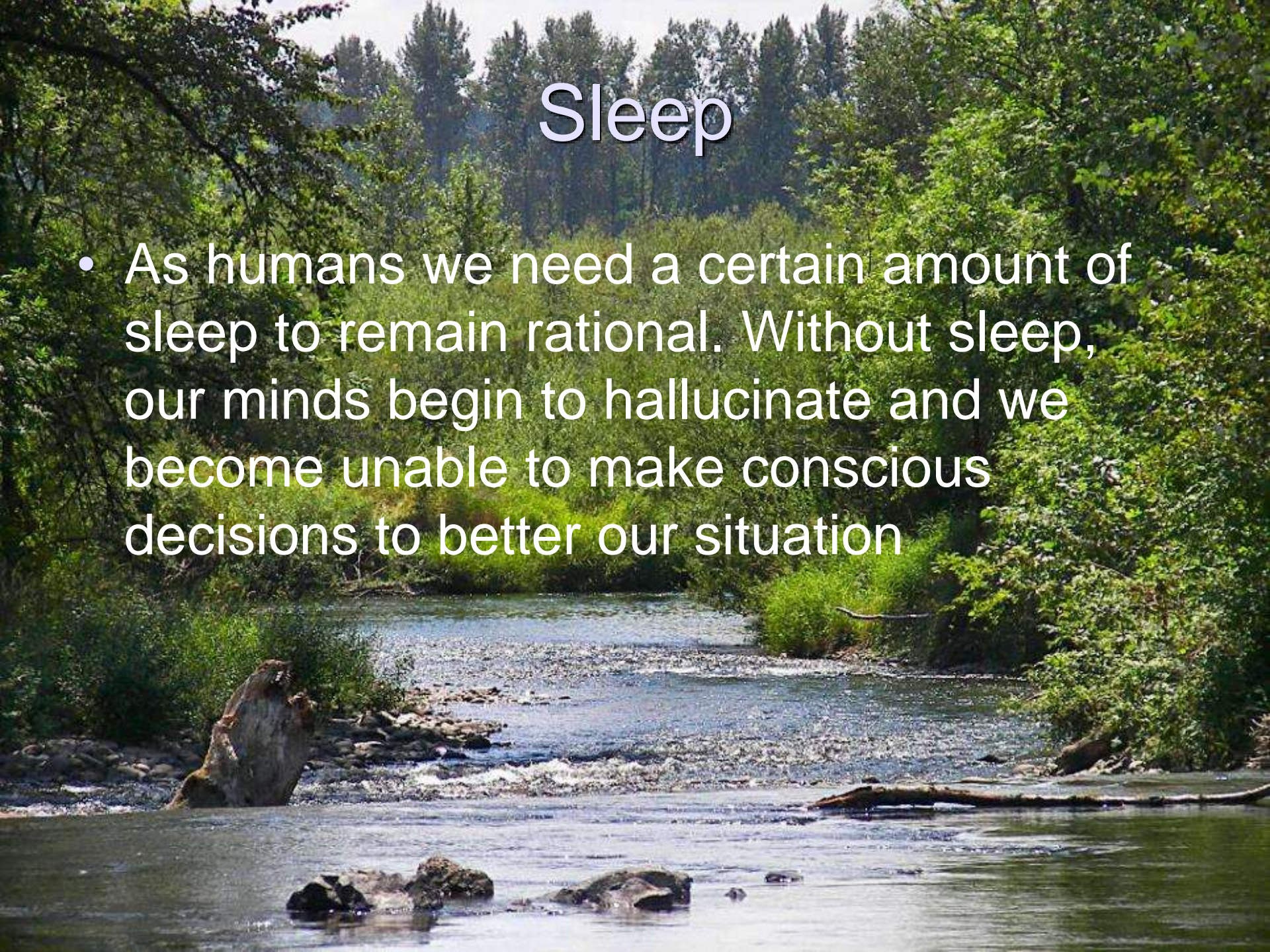
In most wilderness survival situations the challenge is to keep you warm, even in the desert. During daytime the sun and the high temperature is a problem and you need shade, but during the night the desert cools rapidly and you need warmth.

# Water

- After we have secured our body temperature, we need to remain hydrated in order for biological processes to take place. The human body is 65 per cent water and needs a constant supply of water to function. Water is essential to life. The average person can survive for three days without water. Don't wait until you run out of water before you look for more

# Sleep

- As humans we need a certain amount of sleep to remain rational. Without sleep, our minds begin to hallucinate and we become unable to make conscious decisions to better our situation



# Food

- An average adult can survive for three weeks without food. Food is rarely the first priority





# 8 Basic Wilderness Survival Skills

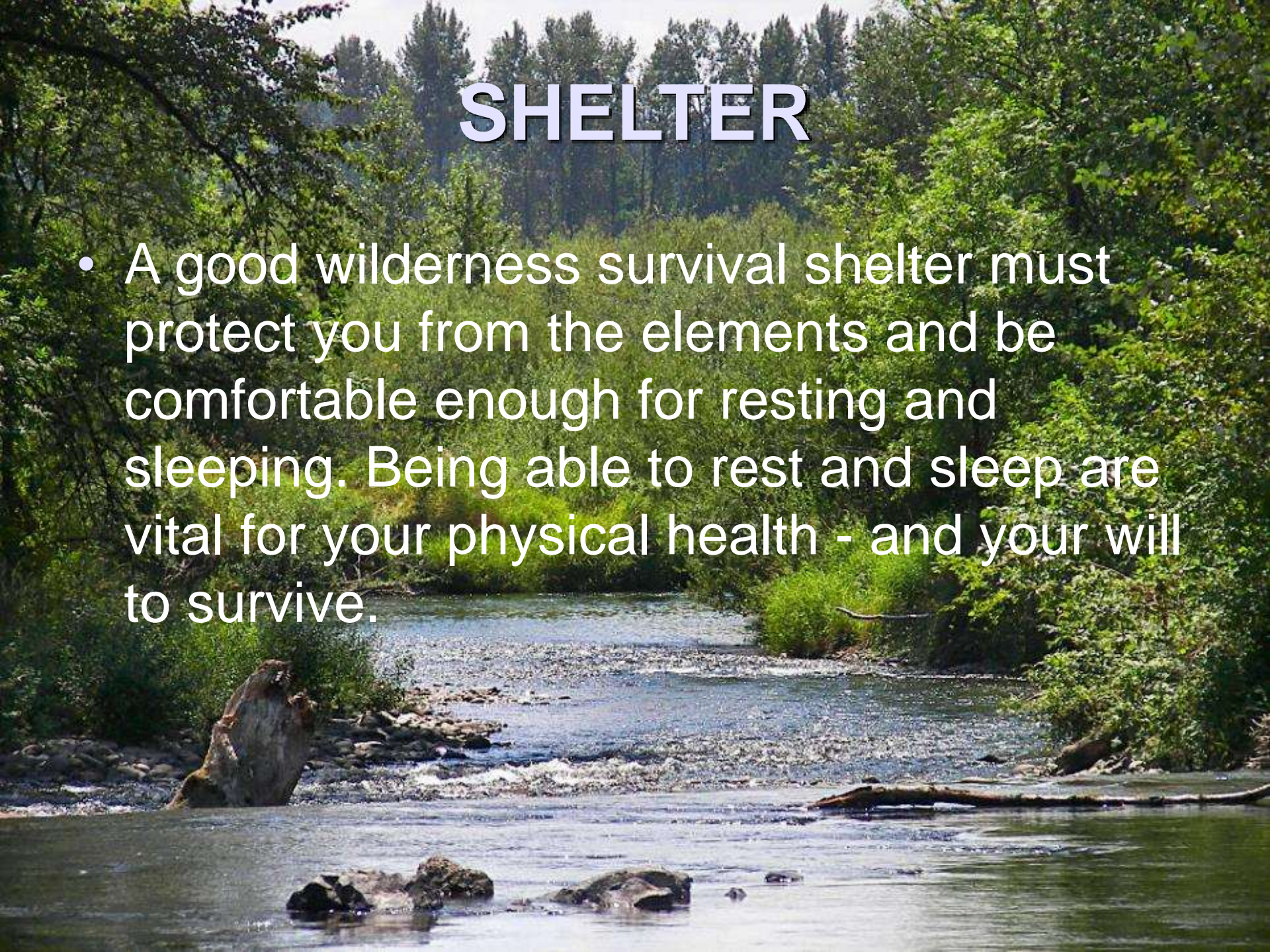
- Never forget that your brain and your ability to remain calm and not to panic are your most important survival skills.

Go ahead and learn more on how to:

- make SHELTER to protect you from different weather conditions.
- make a FIRE when you don't have any matches.
- find and purify WATER.
- find FOOD.
- use different ways of SIGNALING to attract attention.
- NAVIGATE with and without a map and compass.
- Basic Wilderness FIRST-AID.
- Basic WEATHER prediction.

# SHELTER

- A good wilderness survival shelter must protect you from the elements and be comfortable enough for resting and sleeping. Being able to rest and sleep are vital for your physical health - and your will to survive.



# Climate

- The importance of a shelter is of course determined by the climate. But if you face a wilderness survival situation in harsh or unpredictable weather, building a survival shelter is an absolute priority.

Most people cannot survive unprotected from rough weather for more than a few hours. [Beware of hypothermia symptoms!](#)



# Shelter site

- Make sure your outdoor survival shelter site is as safe as possible and easy to be seen and found by search and rescue teams.
- Choose ground that is dry and well drained, reasonably flat and free of rocks. Avoid loose rocks, dead trees or other natural growth that could fall on your shelter. Ideally you should be near water, but too close to water may lead you to be troubled by insects.
- Rivers present a constant threat to safety. Heavy rainfall in nearby hills can easily create flash floods. Avoid even dry riverbeds.
- Low ground such as ravines and narrow valleys could be damp and collect the heavy cold air at night and are therefore colder than the surrounding high ground.



# Natural cover

- Do not overlook natural formations that provide shelter. Examples are caves, rocky crevices and large trees with low-hanging limbs.
- Shelters made of natural materials
- If no natural formation is available to give shelter you have to build your own survival shelter.
- Make your shelter just large enough to accommodate you, especially in cold climates, because you are going to have to heat it.



# FIRE

- The ability to construct and know how to make a fire can make the difference between living and dying in a wilderness survival situation.
- Fire making is one of the most vital survival skills. Practice and learn different methods so you know how to start a fire anywhere under any conditions.
- A fire can fulfill several needs. It can keep you warm and dry. You can use it to cook food, purify water and to sterilize bandages. It can scare away dangerous animals and its smoke can keep flying insects at bay, and signal for help.



# Basic Principle

- To know how to make a fire you have to understand that there are three components needed: air, heat and fuel. The correct ratio of these components is very important for a fire to burn at its greatest capability. The more air (oxygen) introduced the more fiercely the fire burns.
- To make a campfire you need to build it up gradually, beginning with small pieces of wood, then progressing to larger pieces as the fire gets going. You can grade your fire material into tinder, kindling, and fuel. Having dry fuel is important. The branches at the bottom of a tree are usually dry.

Don't collect fire material straight from the earth, it's probably damp.



- **Tinder**

You will need some material that ignites very easily to start a fire. Tinder is dry material that takes only a spark to ignite. The tinder must be absolutely dry.

There are a number of things you can use for tinder. Dry leaves, dry grass and bark. Paper works fine too if you have some with you.

Use your knife to turn dry sticks and pieces of bark into powdery tinder. Tinder is the most important part of your fire so prepare it well. Have plenty of tinder on hand so your fire will not go out.





- Kindling

Kindling is readily combustible material that you add to the burning tinder. Small dry twigs and sticks are best. It should easily light when placed on small flame. Again, tinder and kindling must be absolutely dry to ensure rapid burning.

## Fuel

Once your fire is established you can start adding larger pieces of fire wood.



# WATER

- An adult can only survive without water a few days but many weeks without food. Finding water is therefore one of your most important wilderness survival skills.
- Finding water is critical, if not dehydration will inevitably occur. The first symptoms you will face are weakness and decreased mental capacity.
- To prevent water loss: rest, keep cool, stay in shade, seek shelter. Avoid fatty foods and alcohol - digestion uses up fluids. Don't wait until you run out of water before you look for more.

- Survival without water is not possible so to increase your chances in finding water, look for the following:

Valleys and low areas are places where water naturally drains.

Rock crevices. Rainwater may have been collected.

Muddy or damp ground.

Patches of green vegetation. Indicates water of some sort.

Places where animal tracks converge - maybe a water source nearby?

Birds, as they will often circle a watering hole.

Insects, as they often stay close to water.



- Even if you don't find surface water you can sustain yourself in a wilderness survival situation by collecting water from the atmosphere, or from plants or ground stills.

## Rain and dew

- Rainwater is usually safe for drinking and only needs collecting.
- You can collect morning dew by soaking a cloth in long, wet grass. When the cloth is soaked wring it out directly into your mouth or a container. Repeat.



- Condensation

Tree and plant roots draw moisture from the ground. Use that fact to collect water without digging.

Tie a plastic bag over a growing branch with exposure to the sun. Being careful not to puncture the bag. Close the bag. Keep a corner hanging low to collect water. Evaporation from the leaves will produce condensation in the bag. This is an easy way to get pure drinkable water!



- Snow and ice

Don't make the mistake of assuming water is not important in cold winter conditions. Water is always important. Melt ice and snow to get survival water.

- **Water purification**

In most parts of the world surface water is seldom pure. When finding water always purify suspect water before drinking to avoid parasitic infestation. However water collected from the atmosphere, or from plants or ground stills, has the enormous advantage of always being pure.



# FOOD

- It's essential to understand where to find survival food even though food is the least pressing wilderness survival need. With plenty of water and a comfortable resting place, survival without food is possible for approximately three weeks.
- However, food is important for our mental and emotional state, as well as a source of energy and to maintain a normal body temperature.



- **Food from nature**

The wilderness is full of natural foods, ranging from plants to insects. But vary your diet to make sure you get the right proportions of fat, protein, carbohydrates, minerals and vitamins. Meat and fish are good sources of protein and fat. Meat and fish provide virtually everything a long-term survivor would need.

Use food from nature as your food survival supply before using your wilderness [survival kit](#) rations.

If water is scarce, avoid eating. Searching for survival food and digestion consume a lot of your body's water. If water is plentiful or if you must eat, consider the basic guidelines below.





- **Insects**

Your most vital nutritional needs in an outdoor survival situation are protein and fat. Most insects are rich in both.

Turn off your cultural bias against eating insects. [Edible bugs](#) are delicious survival meals.



- **Wild edible plants**

Depending on time of the year you will almost always find edible plants and berries in the wilderness. The problem is knowing which ones are edible....

Increase your knowledge about [wild plants as survival food.](#)

## **Fishing**

Fish are a valuable food source. So if you find yourself in a wilderness survival situation near a river or stream, fishing should be considered.



- **Trapping**

Unless you are an experienced hunter, hunting animals for meat is inadvisable in a wilderness survival situation. Hunting is difficult and you will expend a lot of energy to get your survival food. Instead of hunting consider trapping.

Trapping requires less skill and leaves you free to spend time looking for other survival food sources. The wilderness survivor needs simple traps that are easy to remember and easy to construct.



- **Methods of cooking**

Cooking is a skill of great importance for all wilderness travelers. Cooking not only makes many foods more appetizing to taste but also ensure that parasites and bacteria are killed. Avoid food poisoning.

A compact camping stove is very convenient in the wilderness. However, in many situations a cooking fire is more practical and allows a wider variety of cooking opportunities. For example, campfire cooking without any cooking utensils

# SIGNALLING

- Like many wilderness survival techniques, signalling for help is a skill you should practice before you actually have to use it. If you ever find yourself lost and alone in the wilderness signaling for rescue is one of your highest priorities



- **Visual signals**

If you don't carry a two way communication radio, cellular phone or a whistle as an emergency signaling device, you mainly will have to use visual signals. Depending on your situation and the material you have available you can use either fire and smoke, signal mirror, flares and flashlight or strobe light to create your visual distress signal.



- **Signal site**

For best results when signaling for help, select a signal site close to your shelter with good visibility such as a clearing, hilltop, or a lakeshore.

## **Search**

Will there be a search for you? Put yourself in the searchers place. Will they be looking for you from air or ground? A search will probably start from your last known location and sweep on the proposed route.



# SOS

- SOS (Save Our Souls) is the best known international distress signal. Everyone who ventures into the wilderness should be at the least familiar with SOS. The SOS signal can be transitted by any method, visual or audio. The code for SOS is 3 short, 3 long and 3 short signals. Pause. Repeat the signal.
- The SOS signal can for example be constructed as a ground to air signal with rocks and logs, or whatever material you have available. At night you can use a flashlight or a strobe light to send an SOS to for example an aircraft. At day you can use a signal mirror.

Almost any signal repeated three times will serve as a distress signal. Use your imagination.





- **Signal fires**

When signaling for help the most noticeable signal is your fire. It is easily seen at night and during the daytime the smoke from your fire can be seen for many miles.

Build three fires in a triangle or in a straight line with about 30 meters (100 feet) between the fires. Three fires is an international recognized distress signal



- **Signal mirror**

On a sunny day, a mirror is your best signaling device. Any shiny object will serve - polish your canteen cup, glasses, your belt buckle, or a similar object that will reflect the sun's rays. Check your [survival kit](#).

A flash can be seen at a great distance. Sweep the horizon during the day. If a plane approaches don't direct the beam in the aircraft's cockpit for more than a few seconds as it may blind the pilot. Use the code for SOS.

Use your signal mirror properly when signaling for help. Determine where your signal is going, use your free hand as a sight line, in order for it to be effective re-adjust as you or the sun move around the sky. As with any wilderness survival skill this one also requires some practice to master long before you really have to rely on it.



- **Aerial signal flares**

Small hand-held aerial signal flares may be part of your survival kit and good stuff to help you signaling for help. Study it before finding yourself in an outdoor survival situation.

- Stay in one place, and wait it out.

Do not wander around. If you told someone where you were going then people are probably looking for you.



- The primary reason you should not move once you realize you are lost is historically people who are lost and alone in the wilderness and continue to move, move further away from where they should be.

After several days of waiting to be rescued you may decide that no one is looking for you, in this case you must attempt to find your own way to safety. To be able to navigate both with and without map and compass is an important wilderness survival skill.



# Contents of Survival Kit

- Water Bottle (or Aluminum Can)
- Matches
- Signal Mirror
- Space Blanket
- Pocket Knife



# Water Bottle / Aluminum Can

- Use aluminum can to collect water
- Once water is collected it needs to be purified
- Purify water by boiling it over fire
- Let water boil for one minute to be sure all bacteria is killed



# Matches

- Start by lighting tinder, as it will ignite easier
- Use tinder to light kindling
- Use kindling to ignite fuel (larger logs)



# Signal Mirror

- A flash can be seen at a great distance. Sweep the horizon during the day. If a plane approaches don't direct the beam in the aircraft's cockpit for more than a few seconds as it may blind the pilot
- Determine where your signal is going, use your free hand as a sight line, in order for it to be effective and readjust as you or the sun move around the sky.





# Space Blanket

