WATER

Water is essential to life. All life depends upon it and all living things contain it. The average person can survive for three weeks without food but for only three days without water. It is the number one priority. Don't wait until you have run out of water before you look for it. Conserve what you have and seek a source as soon as possible, preferably fresh running water, though all water can be sterilized by boiling or the use of chemical purifiers.

The human body is 75 per cent water. It is the coolant that keeps the body at an even temperature, it is needed to keep the kidneys functioning to eliminate wastes and it is in some ways the conductor or vehicle for nerve impulses. But the fluids contained in the body are limited. Lost water must be replaced or health and efficiency will suffer.

WATER LOSS

The average person loses 2–3 litres (4–6pt) of water each day – even someone resting in shade loses about 1 litre (2pt). Just breathing loses fluids, and loss through respiration and perspiration increases with work rate and temperature. Vomiting and diarrhoea in illness increase loss further. This must all be replaced to preserve the critical water balance, either by actual water or water contained in food.

HOW TO RETAIN FLUIDS

To keep fluid loss to the minimum, take the following precautions:

- Avoid exertion. Just rest.
- Don't smoke.
- Keep cool. Stay in shade. If there is none, erect a cover to provide it.
- Do not lie on hot ground or heated surfaces.
- Don't eat, or eat as little as possible. If there is no water, available fluid will be taken from the vital organs to digest food, further increasing dehydration. Fat is hardest to digest and takes a lot of fluid to break it down.
- Never drink alcohol. This also takes fluid from vital organs to break it down.
- Don't talk – and breathe through the nose, not the mouth.

FINDING WATER

The first place to look is in valley bottoms where water naturally drains. If there is no obvious stream or pool, look for patches of green vegetation and try digging there. There may be water just below the surface, which will build up in the hole. Even digging in gullies and dry stream beds may reveal a spring beneath the surface, especially in gravelly areas. In mountains look for water trapped in crevices.

On the coast digging above the high water line, especially where there are sand dunes, has a good chance of producing about 5cm (2in) of fresh water that filters down and floats on the heavier salt water. It may be brackish but is still drinkable. Where cliffs fall into the sea look for lush growth of vegetation, even ferns and mosses, in a fault in the rock formation and you may find a soak or spring.

If no freshwater can be found, saltwater can be distilled.

DEW AND RAIN COLLECTION

Despite the acid rain produced by industrialized countries, which can cause a build-up of pollution in the soil, rainwater everywhere is drinkable and only needs collecting. Use as big a catchment area as possible, running the water off into containers of every kind. A hole dug in the ground and lined with clay will hold water efficiently, but keep it covered. If you have no impermeable sheeting, metal sheets or bark can be used to catch water in. If you have any doubt about the water you have collected, boil it.

In climates where it is very hot during the day and cold at nights, heavy dew can be expected. When it condenses on metal objects it can be sponged or licked off.

You can use clothing to soak up water and then wring it out. One way is to tie clean cloths around the legs and ankles and walk through wet vegetation. These can be sucked or wrung out.

ANIMALS AS SIGNS OF WATER

MAMMALS

Most animals require water regularly. Grazing animals are usually never far from water – though some kinds travel thousands of miles to avoid the dry season – as they need to drink at dawn and dusk. Converging game trails often lead to water; follow them downhill. Carnivores (meat eaters) can go for a long period between waterings. They get moisture from the animals on which they prey so are not a positive indication of local water.

BIRDS

Grain eaters, such as finches and pigeons, are never far from water. They drink at dawn and dusk. When they fly straight and low they are heading for water. When returning from water they are loaded with it and fly from tree to tree, resting frequently. Plot their direction and water can be found.

Water birds can travel long distances without stopping to feed or drink so do not necessarily indicate water nearby. Hawks, eagles and other birds of prey also get liquids from their victims so cannot be taken as a sign of local water.

REPTILES

Not an indicator of water. They collect dew and get moisture from prey, so can go a long time without.

INSECTS

Good indicators, especially bees; they fly at most 6.5km (4 miles) from their nests or hives, but have no regular watering times. Ants are dependent upon water. A column of ants marching up a tree is going to a small reservoir of trapped water. Such reservoirs are found even in arid areas. Most flies keep within 90m (100yd) of water, especially the European Mason Fly with its iridescent green body.

HUMAN TRACKS

Will usually lead to a well, bore hole or soak. It may be covered over with scrub or rocks to reduce evaporation. Replace the cover.

REMEMBER: RATION YOUR SWEAT NOT YOUR WATER!

If you have to ration water, take it in sips. After going a long time without water, don't guzzle when you do find it. Take only sips at first. Large gulps will make a dehydrated person vomit, losing even more of the valuable liquid.