

# FISH AND FISHING

A SURVIVAL GUIDE

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# FISH AND FISHING

Fish are a valuable food source, containing protein, vitamins and fats. All freshwater fish are edible but some tropical ones can be dangerous: be wary of electric eels, freshwater stingrays and the piranha of South American rivers. It takes skill to catch fish by conventional angling methods but, by considering their feeding habits and following the simple methods given here, you can be successful.

Fish range from tiny toddlers to some of prodigious size — such as the Nile perch of the tropics. They differ widely in their eating habits and diet. Different kinds feed at different times and at different levels in the water. Some prey on other fish, others eat worms and insects, but they can all be attracted and hooked with appropriate bait.

If you are an experienced angler you can apply your skills, especially if you have plenty of time on your hands, and will probably gain a lot of pleasure, but if you are fishing for survival the sporting angler's techniques are not the most effective. Two of the most useful methods are the night line and the gill net.

## WHERE TO FISH

Fish choose the places in the water where they are most comfortable and where they most easily find their prey. This will be affected by the temperature of the day.

If it is hot and the water is low, fish in shaded water and where there are deep pools. In a lake the fish retreat to the coolness of deep water in hot weather.

In cold weather choose a shallow place where the sun warms the water. Lake fish will tend to keep to the edges which are warmer.

If the river is in flood, fish where the water is slack - on the outside of a bend — for example, or in a small tributary feeding the mainstream if its flow is different - quite possible for the flood may not be due to local rainfall.

Fish like to shelter under banks and below rocks and submerged logs.

## WHEN TO FISH

As a general rule leave lines out overnight and check them just before first light. Some fish feed at night during a full moon.

If a storm is imminent, fish before it breaks. Fishing is poor in a river after heavy rain.

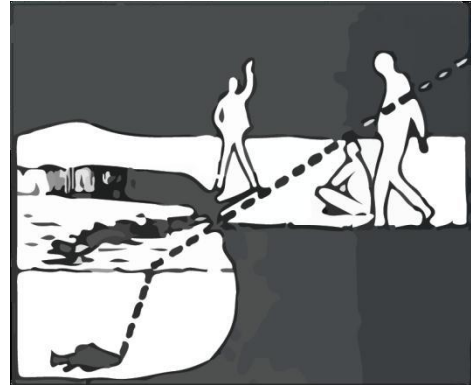
## INDICATION OF FISH FEEDING

Signs that fish are feeding, and therefore likely to take bait, are when they jump out of the water, or you see frequent clear ring ripples breaking out where fish are taking flies on the surface. Where lots of little fish are darting about they may well be being pursued by a larger predatory fish.

## IMAGE REFRACTION

Water refracts light so that the fish sees things above the water at a slightly different angle - and can probably see more on the bank than you think. It is always better to fish from a sitting or kneeling position than standing up so that you are less likely to be in vision.

Keep back from the edge. Always try to keep your shadow off the water you are fishing.

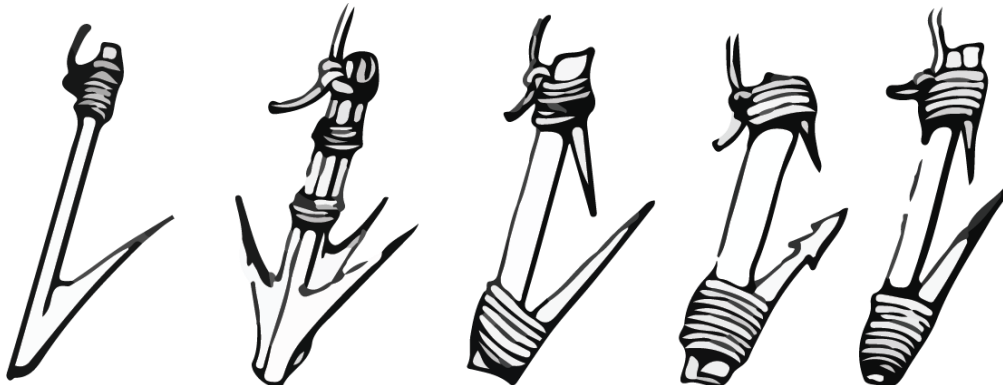


## ANGLING

Fishing with a hook and line is the popular way of fishing (though others are usually more effective) and they are part of your survival kit. Floods can also be improvised from wire, pins, bones, wood and even thorns.

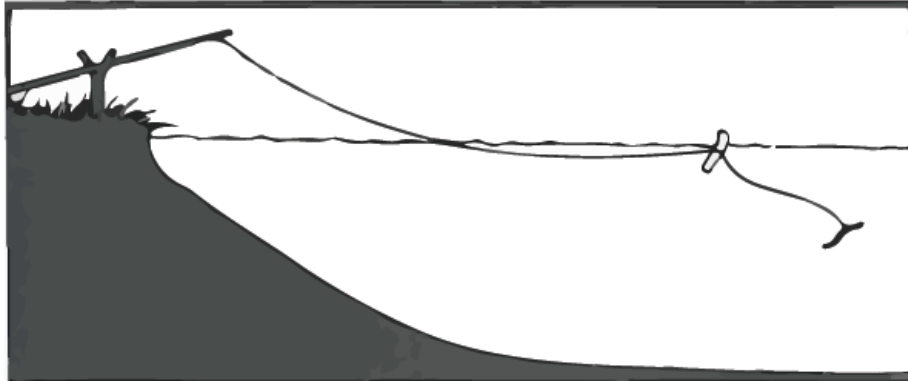
Large hooks will catch large fish but small ones will catch both large and small. Near the end of the line you will probably need to attach another short length with a weight to take the hook down and stop the line being carried along the surface of the water, especially if fishing deep. If it is a long line you also need another length with a float which will be pulled down when you get a bite. A rod is not essential (you can fish effectively with a hand line) but makes it easier to land fish and to cast away from the bank.

You can improvise hooks from all kinds of materials. Here (from left to right) a pin, a thorn, a bunch of thorns, nails, bone and wood have been used.

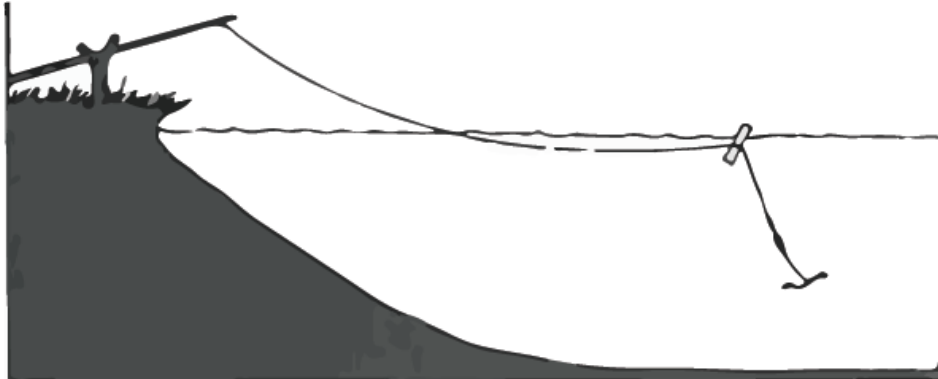


### Using floats and weights

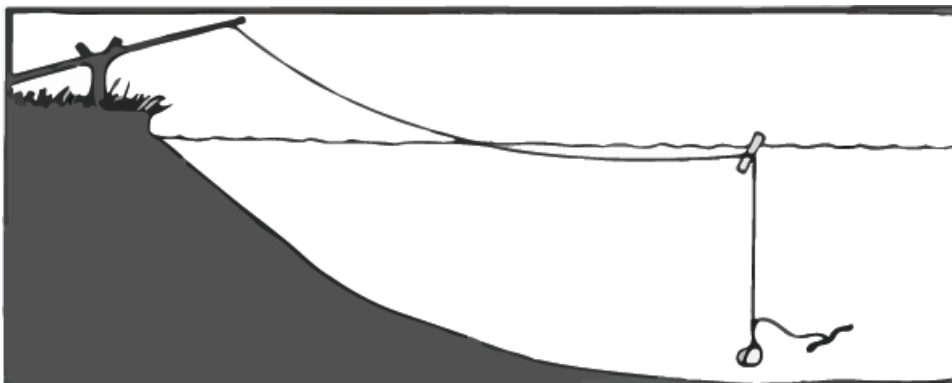
Along the line attach a small floating object, easily visible from the bank, and you will be able to see when you have a bite. Its position will help control where the line descends.



Small weights between the float and the hook will stop the line from trailing along the water or at too near the surface in a current, still leaving the hook itself in movement. You have small split lead shot in your survival kit. Slip the groove along the line and squeeze in to fit closely.

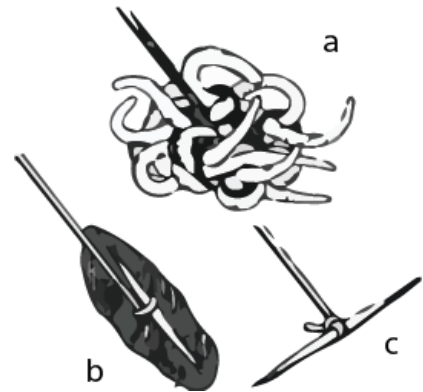


A deeper hook position can be ensured by extending the line to a weight below the hook.



## ANGLING WITHOUT HOOKS

You do not even have to use a hook to fish with a line. To catch eels and catfish tie a blob of worms on a line (a). These fish swallow without biting so swallow the bait with line attached. Pull them out as soon as the bait is taken. Instead of a hook you could use a small sharp piece of wood tied on the end of the line and held flat along it by the bait (b). When the bait is swallowed the wood will open out and lodge across the gullet of the fish (c).



## Bait

Bait native to the fishes' own water is most likely to be taken: berries that overhang it, insects that breed in and near it. Scavenger fish will take pieces of meat, raw fish, ants and other insects. Once you have a catch examine the stomach contents of the fish and eliminate the guesswork as to diet. If one bait is unsuccessful, change to another.

## Ground bait

Bait scattered in the area you want to fish, will attract fish to it. A termites' or ants' nest suspended over a river is one excellent method. As the insects fall into the river the fish will take them. Bait your hook with them as well and success is sure. Any suitable bait, scattered on the water, can be used to draw fish but it is always best to put the same bait on your hook.

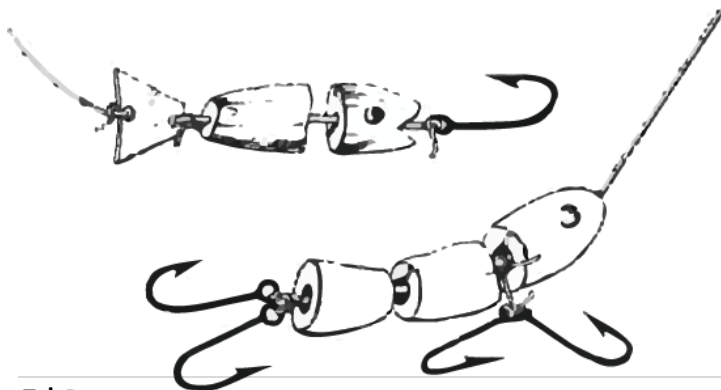
## SPINNING

Curious fish will attack a shiny object drawn through the water: try coins, buttons, pieces of tin can, buckles - anything that glitters. Make a propeller shape to thread onto a piece of wire and it will spin with the current. Attach a hook to the end of the spindle.



## ARTIFICIAL BAIT

They can be made from brightly colored cloth, feathers and shiny metal. Try to make them look like real bait. A few feathers tied to a hook with thread can simulate a fly, or carve a small fish out of wood and decorate it with color or glitter (if you make it jointed it will move more naturally). Try to make lures move in the water like live bait.



Hazel wood has a soft pith and can easily be threaded through so that you can link segments which will wiggle in the water.



## **LIVE BAIT**

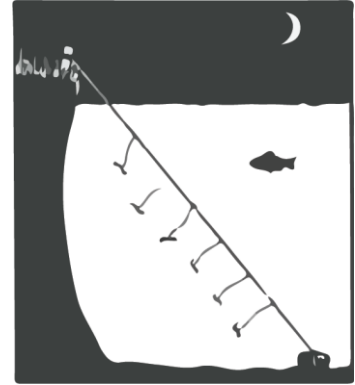
Worms, maggots, insects and small fish can be used as live bait. Cover the hook completely with the bait. You can place the hook through the meaty part of small fish without killing them, or through the body of a grasshopper.

Their distressed movement in the water will attract the fish. Tiddlers are easy to catch so you can 'use a sprat to catch a mackerel'.



## **NIGHT LINES**

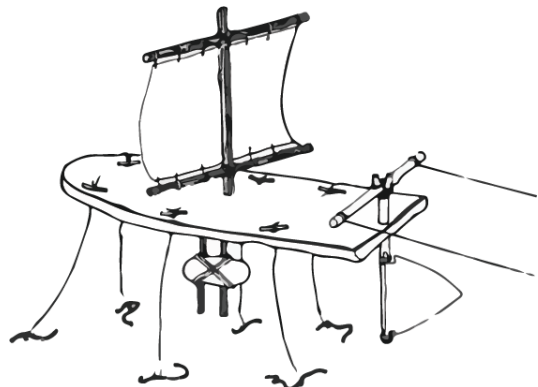
Weight one end of a length of line and attach hooks at intervals along it. Bait them with worms. Lowered into the water this gives you the chance of catching surface-, mid- and bottom- feeders. Anchor the free end securely on the bank. You can put this out at night and leave it until the morning - use it in daytime too - but change the worms at intervals, even if you haven't got a catch, because fresh wriggling worms will attract more attention.



## **OTTER BOARD**

To fish far from the bank, further than you can cast a line - in a lake, for instance, where fish are feeding in the center - make a board with a moveable, pivoted rudder. Set a bar at the front end of the rudder to which two control lines can be attached. Beneath it suspend baited hooks. Float the board out into the lake.

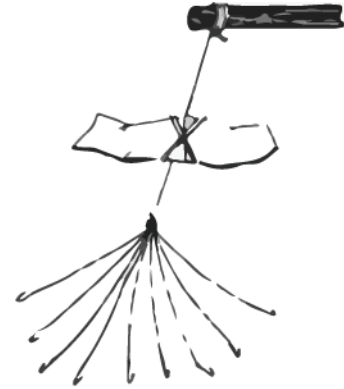
If winds are favorable you could mount a sail, but then a stabilizing keel will also be needed to stop it blowing over. Gouge holes to fix dowel supports (in water the dowels will expand to make a tight fit) and tie on a flat stone - a big keel might conflict with the rudder.



Undue movement of the board will indicate a bite.

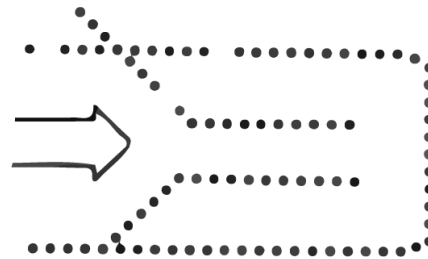
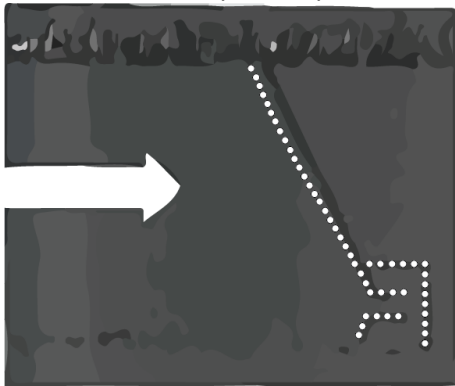
## **JIGGING OR SNAGGING**

This is the art of hooking a fish anywhere on its body. It is a good method to use when you can see fish but they are not taking bait. Tie a number of hooks on to a pole and lower it into the water. Suspend a bright object about **20cm (8in)** above the pole, and when fish go to inspect the glitter pull the hooks up sharply so that they catch on the fish.



## **FISH TRAPS**

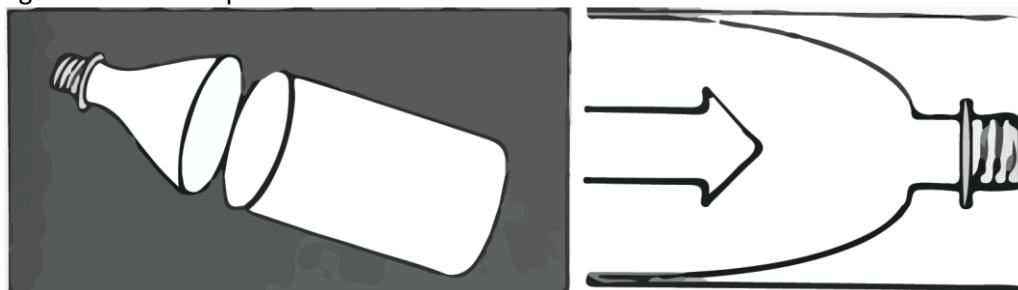
You can make a wide variety of traps, from ones across an entire stream, which you can drive fish into, to bottle traps to capture tiddlers in. Arrows indicate current.



In shallow streams build a channel of sticks or rocks that fish can swim into but not turn around in.

### **Bottle trap**

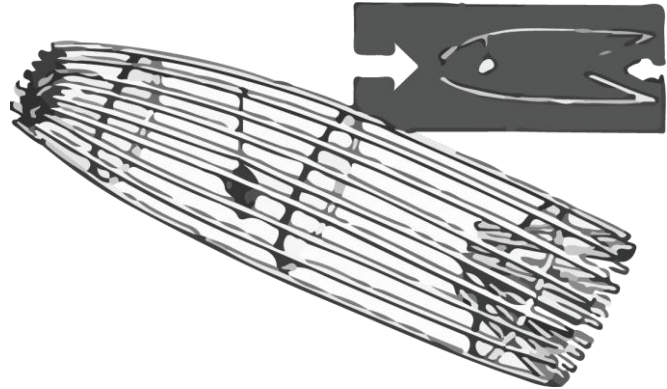
If you have a plastic bottle you can make an efficient trap for small fish by cutting it off just below the neck and then inverting the neck inside the bottle. Fish swim in but cannot find their way out again. Bait the trap to entice them in.



You can make a similar trap for larger fish using a hollow log. Make a lattice cone of twigs for the entrance and block the other end of the log.

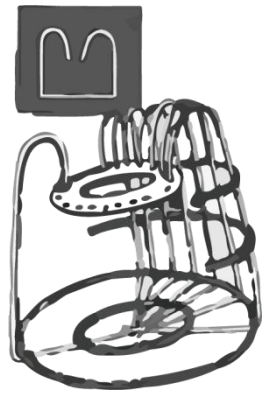
## **Wickerwork traps**

Use young hazel, or other pliant twigs - bamboo bends better if you warm it - to make a trap into which fish can swim but from which they can find no way out. A wickerwork trap allows the current to flow through it, and since it is made of natural materials may seem like a tangle of reeds or stream-bottom debris.



The torpedo shape is made from wicker woven and tied in position. Place the opening downstream, against the current. The entrance starts quite wide, making it easier to enter, but inside the angle of the struts makes escape difficult.

The lobster-pot trap utilizes holes in a circle of board to make it easier to shape but could be made without the board. This trap sits on the bottom. Bait will attract eels, crayfish and similar creatures.



## **Fish snares**

Large fish such as pike, which lay alongside weeds, can be caught in a noose. Fix a noose line to the end of a pole, or pass it down the inside of a length of bamboo. Pass it over the fish from the tail end and pull it up sharply so that the noose traps the fish.

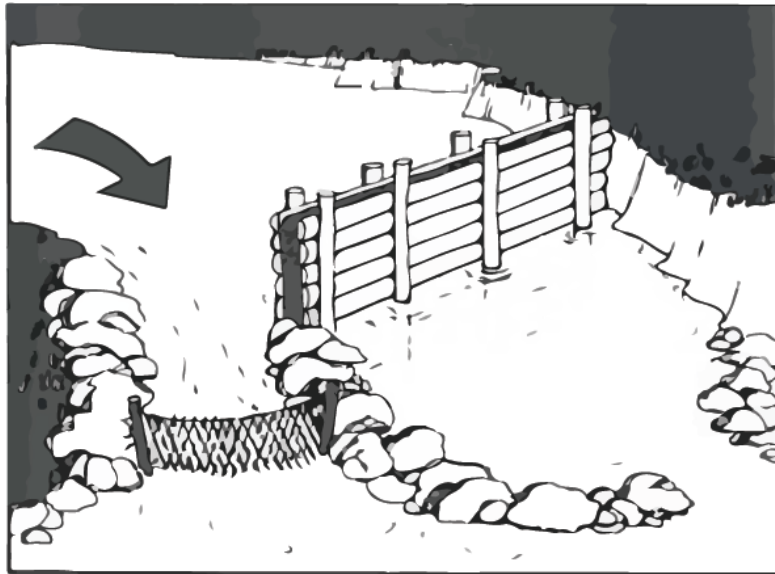


## **Eel bag**

Tie fresh surplus offal or a dead animal inside a sack or cloth bag (plastic will not do) together with a quantity of straw-like vegetation or bracken. Tie a line and a weight to the end of the bag and allow it to sink. Leave it overnight and pull it out in the morning. If there are eels in the water they will chew their way into the bag to get at the offal and will still be wriggling in the straw when you get the bag landed.

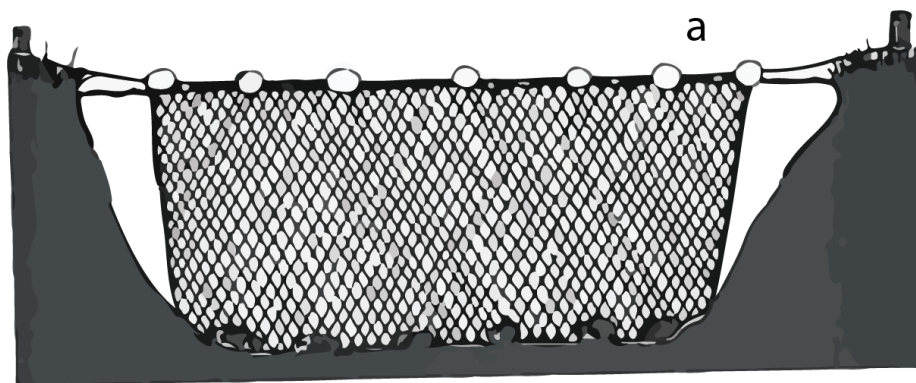
## Damming

Build a dam across a stream, diverting the flow to one side, and with rocks create a small shallow pool downstream where fish swimming upstream will be trapped. Fix a net below the race at the side of the dam to catch any fish that are carried over it from upstream.

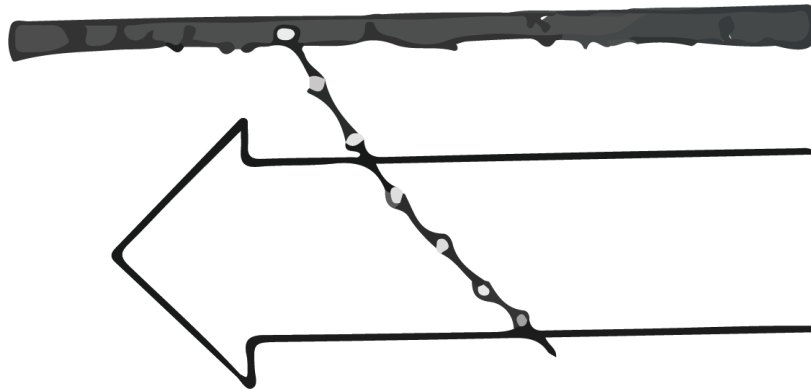


## Gill net

Make a net with a mesh size of about 4cm (1'Ain) between knots (see *Netting in Camp Craft*), set floats at the top and weight the bottom, then stretch it across a river. Fish swimming into it get caught by the gills. It is lethal and will soon empty a stretch of water so should not be used for long in an area where you intend to stay (or in a non-survival situation). If the ends of the net are tied to the banks at both top and bottom, weights and floats will not be needed.



A gill net can be anchored on each bank, (supported by weights and floats (a), or tied to fixed posts. If it is angled across the line of the current (b) there is less likelihood of driftwood building up against it.



## **OTHER TECHNIQUES**

If all else fails try the following methods.

### **Tickling**

This is an old poacher's technique which takes patience but is effective where fish shelter below the undercut banks of fairly shallow streams. Lie along the bank and lower your hands gently into the water so that they can adjust to the water temperature. Keeping your hands as close to the bottom as possible, reach under the bank, moving the fingers slightly, until you touch a fish. Work the hand gently along its belly (fish usually swim against the current when feeding) until you reach the gills. Then grasp the fish firmly and pull it out.

### **Attracting and driving fish**

At night a torch or firebrand held above the water will attract fish. Nets can then be drawn around the area to trap the fish which can be speared or clubbed. A mirror or other shiny material placed on the riverbed will reflect either sun or moonlight and attract fish.

### **Spearing and shooting fish**

Sharpen a long stick to make a spear, adding barbs to make it more effective. If you have multiple points, like Neptune's trident, you give yourself a wider margin of error since it covers a larger area. Try to get above the fish and strike down swiftly. Make sure that you are not casting a shadow over the fish you are trying to catch. Aim slightly below the fish to allow for the refraction of its image at the surface. If you are a good shot use a bow and arrow to shoot fish (the wooden shaft will float and help to bring your prey to the surface, though most dead fish will float, anyway).

### **WARNING!**

If you have a firearm and plenty of ammunition it is worth trying to shoot fish with a gun but NEVER

fire with the barrel actually in the water – or it will explode.

The water seals the end of the barrel and instead of the bullet rushing outwards the force of the detonation blows back at you. It is not just dangerous – it is potentially lethal. Make very sure that the barrel is clear of the water.

## **Muddying**

Receding floodwater leaves isolated pools which are offer abundant in fish. Stir up the mud at the bottom of these pools with a stick, or by stamping in them. If there are any fish they will try to reach clearer water. Scoop them out.

## **Explosives**

Explosives can be used in the water. They will kill the nearest fish, but by liberating the oxygen in the water will also cause those further away to surface.

## **FISH NARCOTICS**

In many parts of the world fishermen use local plants to poison or stupefy fish to make them come to the surface, where they are easy to collect. This works best in a deep pool where one end can be dammed to contain the fish, but the method can be effective in any slack water.

Some plants daze or narcotize or intoxicate the fish but most have the effect of taking oxygen from the water so that the fish come to the surface in search of aerated water. Various parts of plants are used but in many cases they are simply crushed and thrown into the water. Although the effects are catastrophic for the fish they are not long lasting — the water soon reoxygenates itself. Most of these narcotics take effect more quickly in warmer waters and they are most widely used in tropical countries.

If these methods are used in closed pools you will have cleared out the fish supply and removed a future source of food. When a river or coastal pool is reopened to the main water, however, new fish will move in and restock it.

If seashells, snail shells or coral are burned over a very hot fire they will produce lime which can be thrown into still water to poison fish which will still be safe for human consumption.

### **WARNING!**

Dead fish floating on the surface - unless you have caused them to be there - may look like an easy meal but they may be diseased and if they have been there some time will not be fit to eat.

When released in water these poisons are toxic only to cold-blooded animals but this does not mean that they are edible. They are not. Parts of some of these plants are VERY DANGEROUS, if eaten raw. Use them on fish - not yourself - then eat the fish. Many plants are used. The following

are effective and common in their areas.

### **DERRIS PLANTS**

**Derris** is found from Southeast Asia to Australia. They are woody, climbing, vine-like plants, usually with small oval leaflets in pairs opposite each other, purple flowers and seedpods. Powder the roots and throw them into the water. Stupefied fish will rise to the surface not long afterwards.



### **BARRINGTONIAS**

Barringtonia are trees, found in the same area as Derris, across to Polynesia, and often near the coast. Crush the seeds inside their urn-shaped pods and throw them into the water.



### **DESERT ROSES**

**Adenium**, found in tropical and southern Africa and in parts of Arabia, are shrubs, sometimes small trees, with thick fleshy leaves. One of the most effective, *A. obesum* (illustrated) from East Africa has spirals of bluntly oval leaves and clusters of tubular pinkish flowers. Use crushed stems and roots, which contain a highly toxic sap.



### **SOAP PLANT**

**Amole Chlorogalum pomeridianum** grows in dry open or scrubby country in western North America. It has narrow, grass-like leaves and white star-like flowers. Crush the bulbous root and throw into pools.



## **GOAT'S RUE**

**Tephrosia virginiana** grows on open ground in North America. Its surface is slightly hairy; it has many narrow leaflets and long flat seedpods. Use the crushed stems or the very poisonous roots.



## **ARCTIC FISHING**

On frozen Arctic seas fish are likely to be the most accessible food. Even in summer it is safer to fish through the ice than to fish from the edge of a floe which may break up beneath you. The techniques involved are equally effective on any frozen lake or river where the ice is thick enough to bear your weight with ease but not so solid that it cannot be broken through.

First you need to gain access to the water, which means smashing a hole in the ice. If you have an ice saw, use that to cut neat holes which will still leave you with firm edges. If you have to smash the ice there is a risk that it may fracture back into the area where you are standing. Approach the operation carefully.

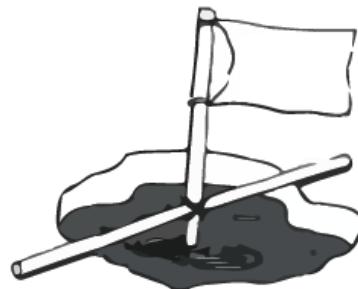
### **Hook and line**

Bait the hook in the usual way. If the line is being carried back up against the underside of the ice you will have to weight it below the hook.

There is no point in trying out your angling skills at only one hole

- Far better to set up multiple angling points. In order to cover them effectively, however, you will need an easy way of knowing when you have a bite. Make a pennant from a piece of cloth, paper or card
- Preferably of a bright color so that you will see it easily against the snow and ice - and attach it to a light stick. Lash this firmly at right angles to another stick which must extend beyond the maximum diameter of your hole by at least 30 per cent. Now attach the line to the lower end of the flagpole and rest the flag on the side of the hole with the line at its center.

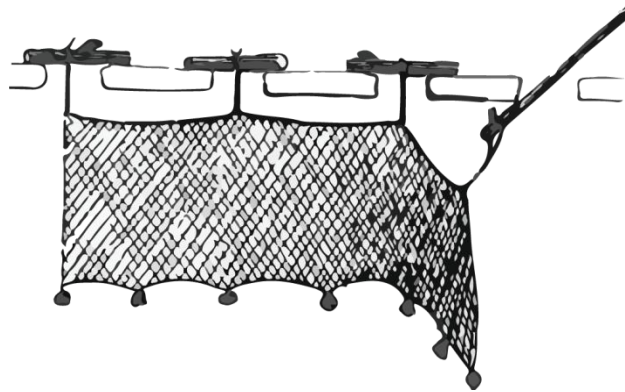
When a fish takes your bait the cross piece will be pulled over the hole and the flagpole jerked upright. Keep your eye on the markers so you can pull your catch up quickly. The wriggling fish is an easy meal for a passing seal.



## **Ice netting**

Although fish do not hibernate their metabolism slows down to cope with the reduced winter temperatures and they consequently eat much less, making them less likely to take bait. Netting, always likely to be more certain of producing results, has a further edge on line fishing.

Put net through the ice. A net lowered from the edge of a floe would probably end up frozen to the floe and handling it would be a risky operation. Instead make several holes in the ice about 40cm (16in) wide and about twice that distance apart. Attach retaining loops to the top edge of your net at 80cm (32in) intervals, to match the holes, and weight the bottom. Put the retaining loop at one end around a stick or rod of some kind, wider than your holes, and lower one end of the net into the hole at one end of your row.



With a hooked pole (which you can improvise) you now have to fish for the net and haul it through to the next hole where you secure the next retaining loop with another retaining stick — and so on until the whole net is suspended.

If the ice is thin enough, feed all the retaining loops into the hooked pole and lower the entire net through the first hole, anchoring the first loop with a retaining stick. Then, carefully holding the loops, reach the hooked pole through the next hole and slip the remaining loops onto it. Pull the net along and anchor the next retaining loop. Continue until the net is fully extended.

To check your net pulls it up with the hooked pole. If you leave your net for too long, in Polar Regions, you may find that your catch has been for the benefit of a seal who has stolen most of it.

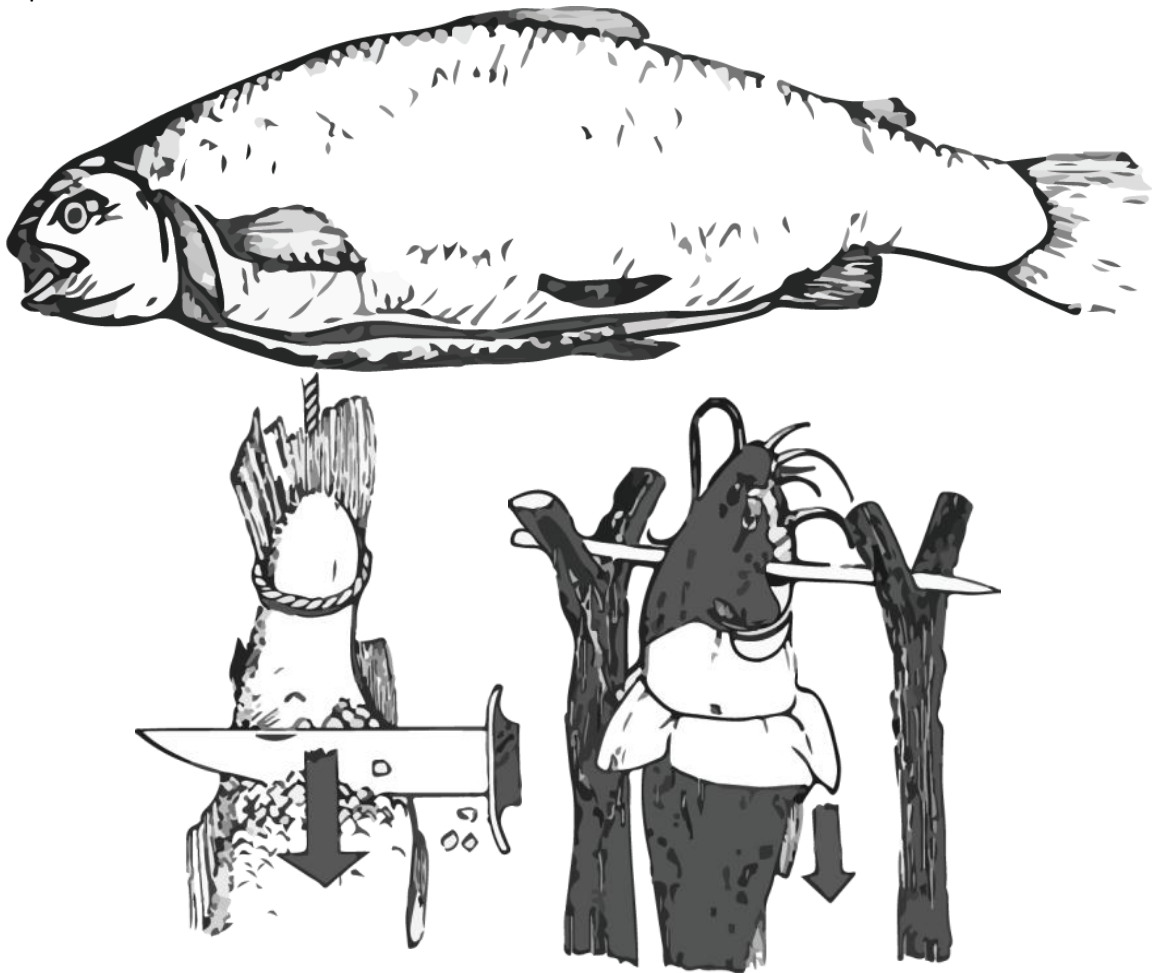
## **PREPARING FISH**

All freshwater fish are edible. Those under 5cm (2in) long need no preparation and can be eaten whole. Larger fish must be gutted. Catfish and eels are smooth skinned but others may be descaled. Catfish have a cartilage skeleton. Most other fish have a mass of bones.

**Bleeding** As soon as a fish is caught cut its throat and allows it to bleed. Cut out the gills.

**Gutting** Make an incision from the anal orifice to where the throat was cut. Remove all offal - you can use it for hook bait or in an eel bag. Keep the roe, which runs down the side of the fish. It is hard in females, soft in males; it is very nutritious. This preparation helps fish keep longer.

**Scaling** is not necessary, fish can be cooked with scales on and it will retain its moisture. If there is time, scrape them off. Draw knife from tail to head.



**Skimming** Fish skin has good food value and should be left on and eaten unless food is plentiful. To skin eels and catfish pass a stake through the fish, lodge it across uprights and, having cut the skin away just below it, draw it down towards the tail.