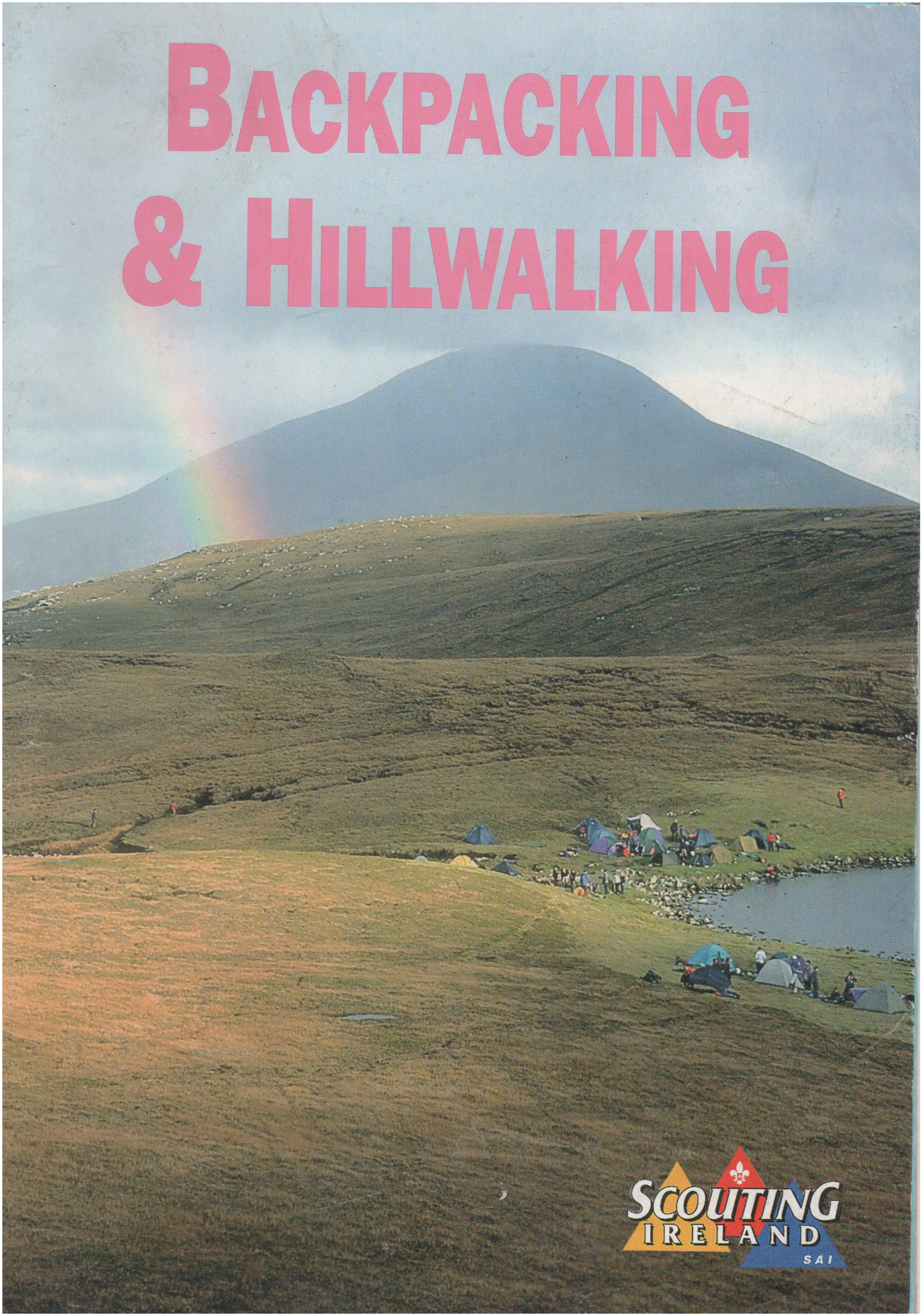
BACKPACKING & HILLWALKING

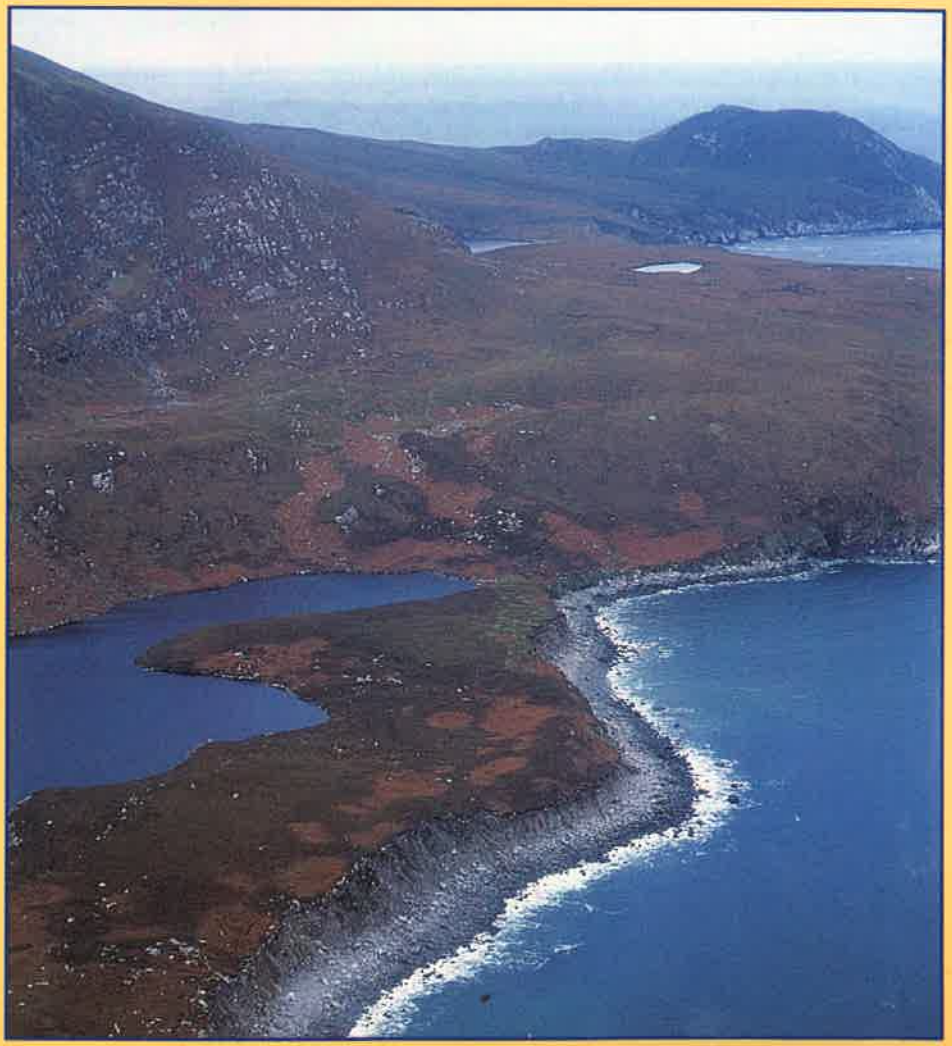


SCOUTING IRELAND SAI

BACKPACKING
An Introduction

Backpacking is about living close to nature: being part of the wild countryside. It means staying out there when others return home. By camping in wild places, you experience much that the day walker misses: the sunset and sunrise, the wildlife that only moves when humans have gone, the vast starry skies on clear nights.

Moving on each day, without the restrictions of having to find overnight shelter, offers great freedom. You can become part of the living natural world.



Backpacking brings a closeness to nature, but staying out also means having to cope with wind, rain and cold. It requires careful preparation both in walking and lightweight camping skills. It means relying on your own skills: navigation and route finding, first aid, cooking using specialist or dehydrated foods and staying dry. In this booklet we outline some of the skills you will need to backpack comfortably and safely, while leaving behind as little sign of your passing as possible.

***This booklet has been produced by Scouting Ireland SAI** as a resourse to scout troops, youth groups and students in the transition year where there is a outdoor education programme.*

Other support material includes an "Activity Pack" of over 50 training games and activities related to camping and hiking, i.e, compass excersises, menu planning, map reading, team building etc. Also available are badges and certificates for the challenges outlined in the back of this booklet.

If you would like to join a scout troop or just want more informarion about scouting contact Scouting Ireland SAI's National office or The Outdoor Adventure Store 34 - 35 Liffey Street Upper, Dublin 1, Telephone 01 - 8725177.

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Backpacking & Hillwalking

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Maps: Based on the Ordnance Survey by permission of the Government (Permit No. 6194)

Be prepared for

Being able to keep warm and dry is as much a skill of backpacking as being able to read a map or use a compass. When keeping dry there are three areas to concentrate on, your clothing, your pack and being able to pitch a tent.

The Layering Principle of clothing

The correct clothing will make your trip more enjoyable and in extreme conditions may help keep you alive. Since you can never be sure how the weather will turn out correct layering will help you regulate your body temperature and protect you from the elements.

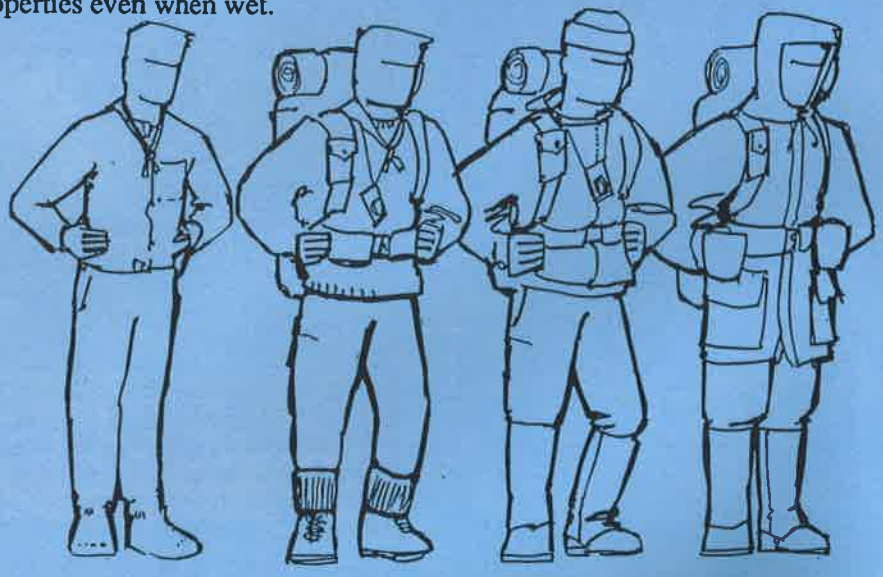
Several thin layers of clothing that trap air between them will keep you much warmer than a single, thick garment. If you get too hot, you can control your body temperature by removing layers or by 'venting' (opening zips or buttons) to allow warm air to escape and cool air to enter).

The Comfort Layer This first layer, which lies next to the skin, should consist of a thermal top and thermal leggings which should be close-fitting .

It should be made from a fabric that 'wicks' perspiration away from your skin and out through the next layer of clothing as perspiration drying on your skin can easily chill you. By keeping your body dry you will also keep it warm.

The Warmth or Middle Layer allows you to regulate your body temperature by putting on or taking off garments as necessary. It could be a light fleece jacket worn over a shirt which allows for plenty of insulation by trapping air.

Hiking breeches or trousers must allow freedom of movement and should be made of a fabric that will dry quickly and retain its insulation properties when wet. Avoid wearing cotton which tends to cling when wet and takes a long time to dry. Wool and many of the newer synthetic fabrics retain their insulation properties even when wet.



. . . The Unpredictable

The anatomy of a good jacket

Wired visor hood

Well cut shoulder and under arm design to allow maximum movement.

Waist draw cord.

Two lower skirt pockets.

Ideally the jacket length should be about half way down the thigh.

Waterproof map pocket concealed behind front storm flap & accessible without unzipping the jacket front.

Wide velcro cuffs.

Heavy duty two way zips with large pullers for easy use with gloved hands.

The Outer or Shell Layer in a three layered system provides protection from the elements. The jacket and leggings should be wind resistant and waterproof. Waterproof over-trousers should be worn in very wet and windy conditions. Ensure that these have wide opening zips to allow them be put on and taken off easily over hiking boots.

Fine tuning your layering system

The three layer system can be adapted to suit the wide range of weather conditions we get. If it is warm but windy remove some of the warmth layer. If it is cool but calm remove the protective shell layer. Layers can be removed during periods of high activity, replacing them during rest stops.

Tips

- In cold weather zips can be difficult to grip. A loop of cord attached through the zip can make it a lot easier to pull if you are wearing mitts.
- Don't wear jeans when hill walking. When wet they tend to cling, take longer to dry and can cause heat loss leading to hypothermia.

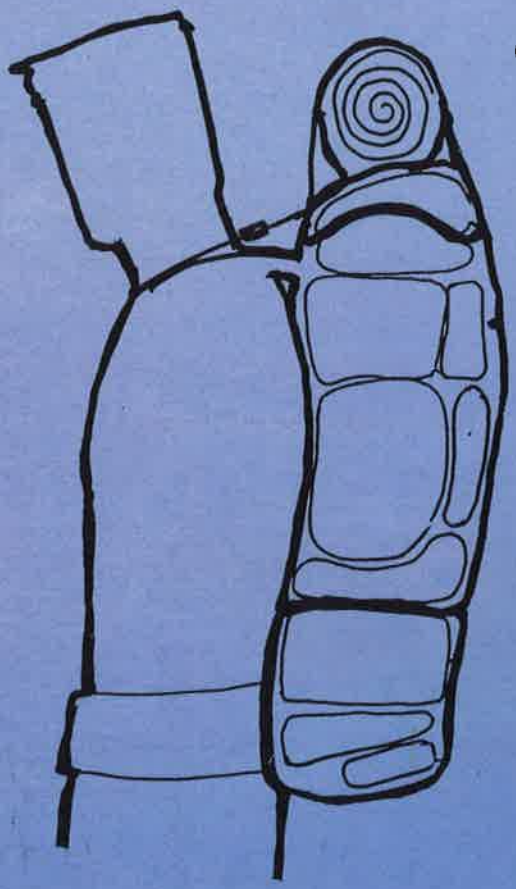
Money can buy better fabric and more features.

	Pros	Cons
Breathable fabrics	Let perspiration out. Often designed to be part of a layering system with their own zip link fleece. Can be worn as a casual garment elsewhere. Trendy two tone colours and designs.	Expensive. Jackets are often short. Do not always work well in very wet and windy weather.
Neoprene PVC	Inexpensive Has the main features. Totally waterproof.	May cause you to sweat a lot.

YOUR BACKPACK

When choosing a pack ignore the weight and gimmicks. Concentrate on comfort and one that fits properly. Packs are measured in Litres. A 60 - 80 litre pack should be sufficient especially with optional side pockets and an extendable lid. Most packs have compression straps to adapt them for varying size loads.

A loaded backpack must be well balanced with the weight bearing directly downwards and carried on your hips via the waist belt and not pulling your shoulders back making you hunch forwards. Additional stability is gained by adjusting the shoulder straps and chest harness. Look for well padded shoulder straps, quick release buckles and heavy duty zips that will take the pressure of gear being stuffed into the pack.



ORGANISING YOUR PACK

Most rucksacks have straps on the outside for tying on bulky items such as a sleeping mat or ice axe. Nothing should be left dangling from the outside of the pack.

During the day you will need to have access to waterproofs, camera, food and water without pulling out everything else, so think about where you place each item.

Ideally, heavy items should be packed high close to your back but avoid making the pack top heavy which could cause problems with your stability on steep ground.

A plastic whistle for use in emergencies only can be tied onto the shoulder strap of your rucksack. A small key ring thermometer attached to the D ring on the shoulder strap can also be useful.

The contents of your backpack should be made completely waterproof. A large heavy duty plastic bag or bin liner should be used inside your backpack to act as an effective membrane and even then it is advisable to pack smaller items again in individual polybags.

Side pockets are useful for small items, while a pack that can split into two compartments makes organising gear easier.

TORCH

A head torch is the most convenient as it allows you to cook and pitch a tent in the dark while your hands are free. Don't forget spare batteries and bulb.

SOCKS

Two thick pairs of hiking socks reduce the friction between boot and foot which usually causes blisters. Bring several extra pairs so you have a dry pair to change into when you get to your camp site or at night.

TIPS

- A map case hung around your neck can be a nuisance in windy weather.
- If you do most of your hiking in one area and constantly use the one map, it is a good idea to get it laminated.
- You can use a fine waterproof felt tip marker to write on a laminated map. This can be wiped off later with methylated spirits.
- Laminated maps are a little bulkier but can be rolled up and stuffed down your gaiter where they are easy to get at.

BIVVY BAGS

Carried as an emergency shelter. They can be used to store your gear overnight if there is no room in the tent. In very wet conditions they can be placed under the tent's ground sheet. They come in various sizes, the larger one giving enough room to allow you get changed in, to store gear and in an emergency several people can get into the one bag to share body heat.

TOILET REQUISITES

Toothbrush, toothpaste (small tube) and a very small towel. If you need soap use a biodegradable type.

GAITERS

These are useful in boggy wet conditions or when hiking through heather or snow. Shock cord is better than a boot lace to secure the gaiter under the boot as it stretches and does not need to be untied. Front zipping gaiters are easier to put on.

HEAD PROTECTION

A fleece hat or better still a balaclava 'head over' which covers the head, the sides of the face and the neck, can prevent considerable heat loss. Many hillwalkers also wear a neck gaiter in winter.

OUTER MITTS

The layering system also applies to your hand's with mittens being warmer than gloves and with waterproof mittens worn on top.

CARE FOR YOUR MAP

Maps which are frequently folded in windy wet weather soon become torn and ragged. By using a map case you can leave your map folded open inside the case showing the section your route follows.

Sleep tight

Don't let the midgies bite

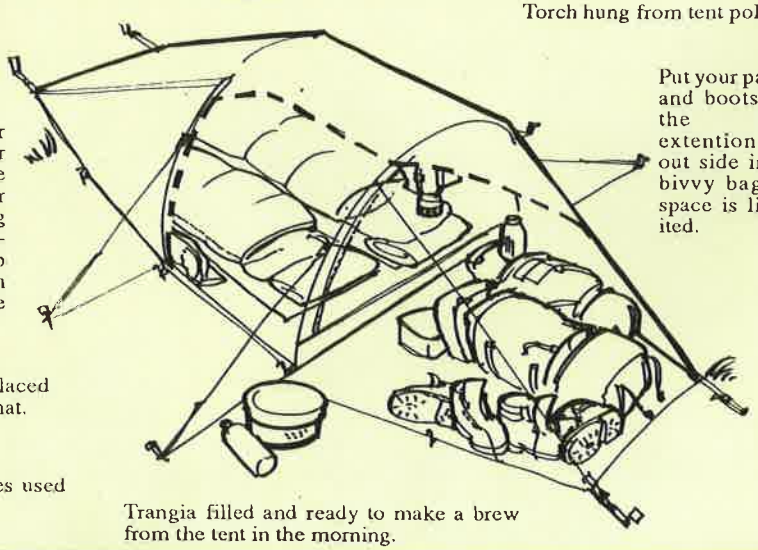
A warm night's rest is essential for an enjoyable backpacking trip. Bag makers rate their bags by the season (eg 2 or 3 season) but these should only be used as a rough guide. How the filling is held in place, the type of filling and the amount will also determine warmth. Sewn through construction allows a lot of heat loss. Bags for all year round use are made with the inner and outer kept apart. Look for box or slant walls, overlapping tubes, shingle or double wall construction. The filling can be of either down or synthetic fibres.

Down is light, compresses well when packed and the weight for warmth ratio is good, but it is expensive and no good when wet. Some people are also allergic to down. **Synthetic fibres** have better insulation properties when wet but are bulky and heavier. A compression stuff sack can help reduce bulk. A rough guide for a 3 season bag would be 1500g of filling for a down bag and 2000g for synthetic fibres. Bag designs have differing features, some of which can effect warmth (e.g. tapered feet, hood and draw cord, half-, full-length or no zip, two-way zips).

Foam Mat

Insulates you from the cold ground giving you a warmer and more comfortable night's sleep. There are different grades of foam mats giving various levels of insulation. There are also inflatable mats which are expensive but extremely comfortable and warm. Mats can be bought in various sizes to reduce weight e.g. full or three quarter length.

Inside your tent at night

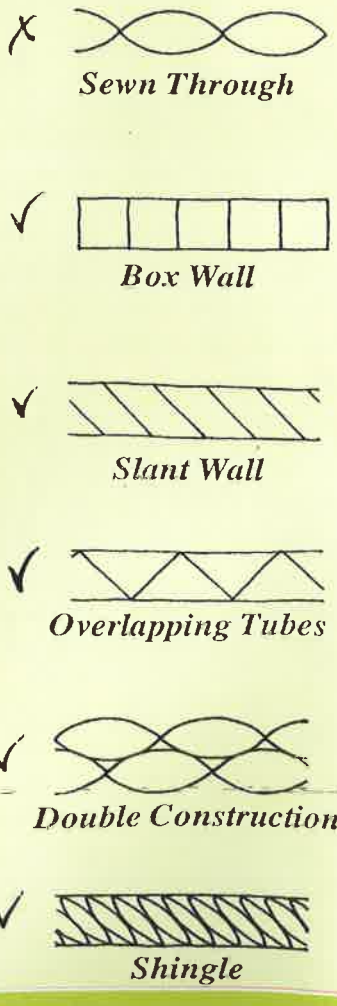


Tips

- The use of a foam mat will insulate you from the ground where most of the cold comes from.
- The use of a sheet bag (cotton liner) can help improve a poor bag by providing another layer of insulation.
- Make sure the sleeping bag has a muffle over the zip to reduce heat loss.
- Place a bivvy bag under your foam mat as it will help prevent rising damp on wet ground or condensation in cold weather.
- When putting your bag away don't leave it in the stuff sack as continued compression will reduce it's thermal properties.

Sleeping bags

Avoid sewn through wall construction as it allows a lot of heat loss. Double wall bags are preferable.



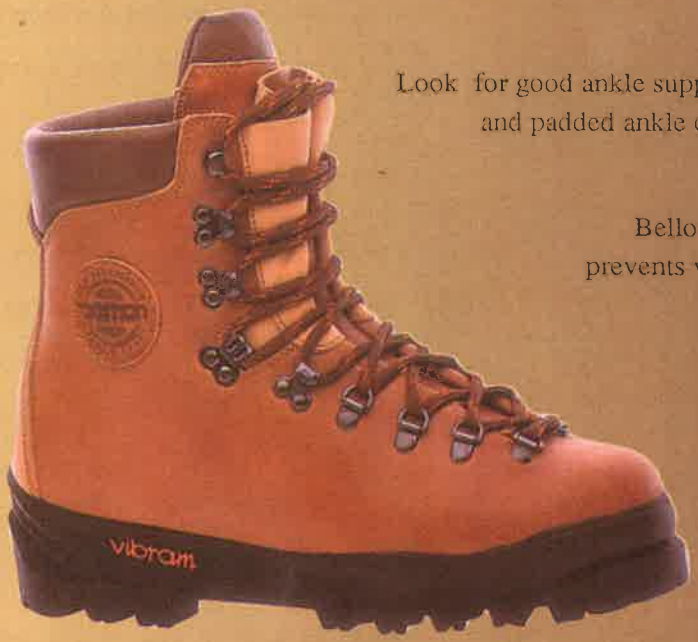
Hiking Boots

A key to enjoyable hiking is comfortable footwear. This is far more important than brand name or special features. Although you don't carry your boots their weight is still an important factor as lighter boots are less tiring to wear.

Canvas type boots, while fine in summer and in rocky terrain, are not much use in wet Irish moorland.

In the wet boggy terrain that makes up so much of our mountains few boots will keep you dry but they can still be warm if two pairs of hiking socks are worn. .

What to look for when buying boots



Look for good ankle support and padded ankle cuff

Bellows tongue that prevents water entering.

Vibram type soles that provide good traction.

As few seams as possible.

High rand prevents scuffing and gives protection.

Strong D rings and lace eyelets.

Foot care Tips

When hill walking your feet do most of the work so it pays off to look after them. Here are a few tips to make your trip more enjoyable

Before using new hiking boots break them in by wearing them around your house and in the street for a few days.

You can cut down foot shock by using an insole.

Wear two pairs of thick hiking socks to reduce the chance of friction occurring between boot and heel.

Bring several extra pairs of socks.

Inspect your feet occasionally and if there are signs of abrasion apply a plaster or put on another pair of socks.

Use a foot-powder before getting into your sleeping bag at night.

Blisters can be pierced with a sterile needle to let the fluid out (heat the needle with a match to sterilise). Do not remove the skin as it is a natural sterile dressing.

Tips

- Look after your boots by cleaning and waxing them after every trip. Dry them out slowly by putting crumpled up newspaper in them. Do not dry boots by the fire as direct heat of this nature can cause the leather to crack.
- Buy boots a size or two bigger than your normal shoe size. Try them on in the shop with two pairs of socks .

Gear Checklist

This is a list of gear needed for any weekend backpacking expedition. Tick off all the items as you do the final packing, keeping the final weight down as much as possible. Make sure all your gear is wrapped in poly-bags to ensure it's waterproof.

Personal gear- includes what you wear

- ☐ Hiking boots (waterproofed) & gaiters
- ☐ Thick hiking socks (4 pairs)
- ☐ Trousers or hiking breeches
- ☐ Thermal vest and long-johns (can also be used as pyjamas)
- ☐ Shirt (2)
- ☐ Jumper or fleece jacket
- ☐ Gloves or preferably mitts
- ☐ Waterproof over-mitts
- ☐ Neck scarf
- ☐ Fleece hat or balaclava
- ☐ Waterproof jacket with hood
- ☐ Waterproof over-trousers with wide opening zips
- ☐ Toothbrush, small tube of toothpaste, small towel, small piece of soap (in a small Toilet Bag)
- ☐ Lunch and flask

- ☐ Sleeping Bag and stuff sack
- ☐ Foam sleeping mat
- ☐ Pocket knife with tin opener, spoon, plastic plate and mug
- ☐ Polythene bag for rubbish
- ☐ Compass, navigation card and watch (ideally with a stop-watch function)
- ☐ Head torch (spare batteries / bulb)
- ☐ Plastic whistle attached to rucksack
- ☐ Emergency rations / GORP
- ☐ Reflective strip attached to pack for road walking
- ☐ Large bivvy bag
- ☐ Rucksack with optional side pockets
- ☐ Heavy duty plastic bag to line pack and smaller poly bags
- ☐ Small amount of toilet paper in a plastic bag.

Group Equipment will have to be shared out evenly between all the Group Members

- ☐ Maps (minimum 2)
- ☐ Map case or laminated maps
- ☐ First Aid Kit & pencil, paper
- ☐ Hike tent (with some bulldog pegs and poles)
- ☐ Trangia Stove, fuel in marked fuel container
- ☐ Matches in 35mm film canister
- ☐ Unbreakable flask
- ☐ Rations packed in lunch boxes
- ☐ Wash up cloth or pads
- ☐ Safety rope (30metres of 7mm rope)

- ☐ Collapsible water bag ie the inside of a wine box
- ☐ Midge repellent (summer only)
- ☐ Sun cream, lipsalve.

Optional extras

- ☐ Playing cards
- ☐ Personal stereo / radio (for weather forecasts)
- ☐ Paperback book
- ☐ Guidebook
- ☐ Camera and film
- ☐ Mobile phone
- ☐ flare

OUTDOOR ADVENTURE STORE

Getting the right gear

In the Outdoor Adventure Store we specialise in outdoor equipment. Not only do we carry a huge range of hillwalking and backpacking equipment, including all the leading brand names our staff have years of experience in the out of doors and can help and advise you on the best buys for your trip. Come in and see our tent show room and why not try out our climbing wall when you're at it.

For walkers

Rain gear
Thermal wear
Day packs
Socks, gloves & hats
Fleece jackets
Hiking boots
Gaiters
Maps, compasses, guide books
Map cases
Bivvy bags
Safety rope
First aid kits
Navigation cards

For the backpacker

Rucksacks
Sleepingbags & stuff sacks
Tents, bivvies & group shelters
Foam mats & Thermarests
Trangia stoves & fuel bottles
Water purifiers
Insect repellant
Pocket knives
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Camping accessories

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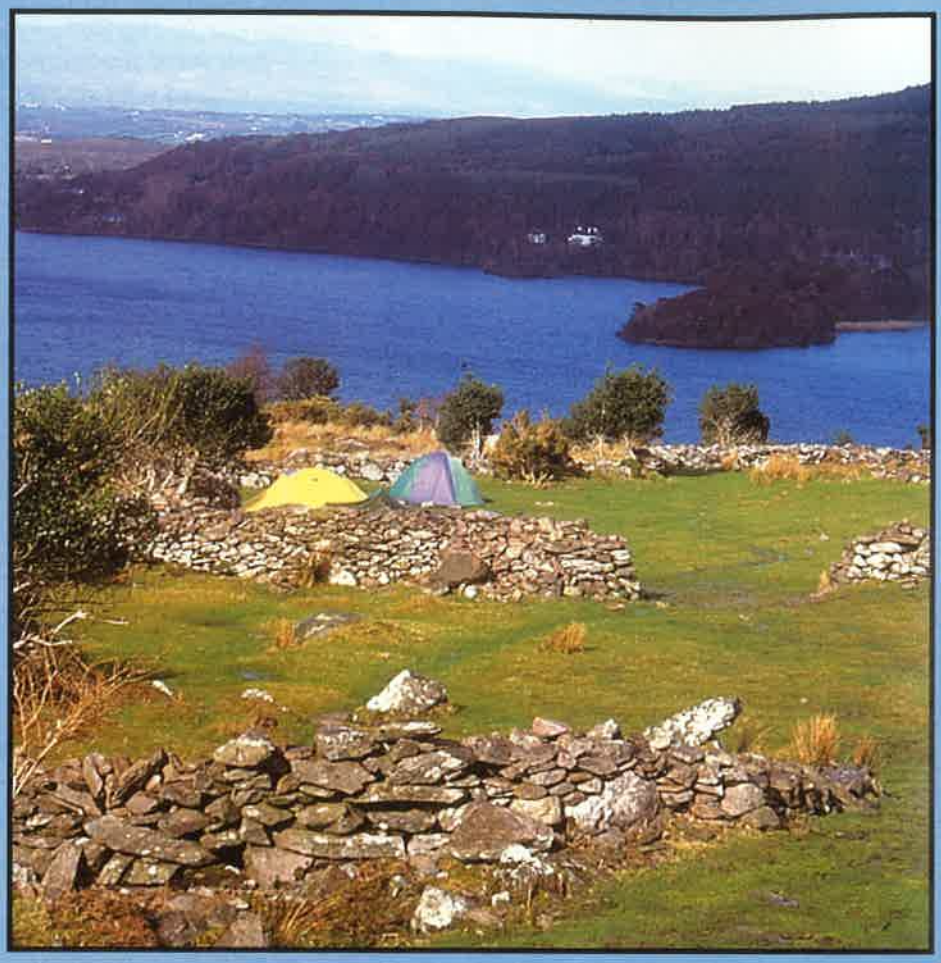
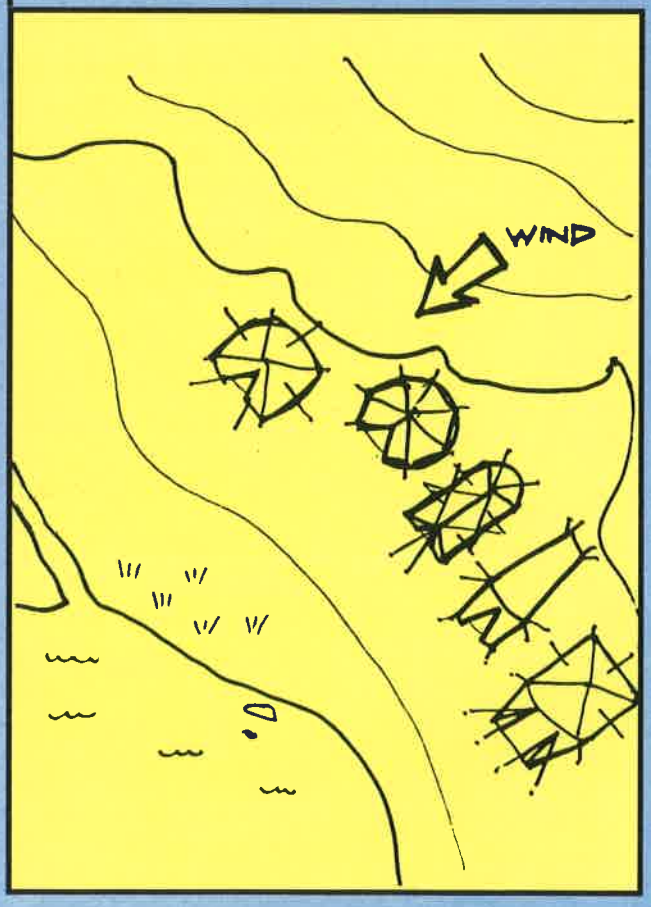
HIKE TENTS

There is such a variety in tent designs now that it would be difficult to go through the pros and cons of all of them here. Here are the main features to look for in a two person tent.

- The inner should be roomy enough so that two people can sit up comfortably and can change in it if the weather is bad.
- A fly sheet with a porch extension provides space for cooking in bad weather and for storing gear at night.
- The fly should be tight so that it does not touch the inner and will not flap in the wind. It should peg down to the ground as low as possible to prevent the wind getting under it.
- Fitted ground sheets should come up a little at each side to prevent damp entering.
- When purchasing the tent keep the weight in mind and think what it will add to your pack even when split up between two or three. A two person tent should weigh about 3 - 4 kg.





Choosing a campsite

Many tents blow down not because of the tent's design but because of bad pitching. First of all, the site you choose should give as much shelter as possible to the tent. Ideally, pitch in the lee of crags, trees, an earth bank or someone else's better tent!

Avoid damp ground which is likely to flood and where vegetation damage will be greatest.

The direction of pitching should take account of wind direction, usually tents are best with their back to the wind. Finally, the tent should be pitched well; all pegs firm, at a 45 degree angle; fly sheet taut; storm guys well placed; good spacing between fly and inner.

Avoid camping near fast flowing rivers or crags that could be a danger at night should you need to take a leak.

When camping near a water source such as a stream or lake all washing should be done away from the water source and fouled water poured into vegetation 100 metres from the water source.

The area choosen as a latrine should be at least 100 metres from any water source. Bury your toilet waste. Burn your toilet paper if it is safe to do so, otherwise bury it also. Please do not hide faeces or toilet paper under stones.

New Tents From Old

You can do a lot to your average hike tent to make it survive a storm.

Most basic hike tents can easily be upgraded to storm-proof them for Irish weather.

1. Replace some pegs. The 'meat skewer' type sold with many light weight tents are only suitable for pegging down the inner. The angled 'bulldog' type are best for pegging down the fly sheet and storm guys. Bring extra ones for double pegging points on soft ground.

2. Bring extra line for storm guys and peg them as far out as possible.

3. Sew on extra guying points around the base of the fly sheet.

4. Replace weak 'rubber bands' at guying points with 'shock-cord' tied in loops.

5. A silicone sealant can be used to waterproof stitched seams.

6. A bivvy bag placed under the ground sheet can prevent damage and damp ingress.

Tips

Each time a tent comes back, it should be dried by hanging it up to air, otherwise mildew will rot the fabric. Repair any damage, particularly the guying points, and reinforce if necessary.

Leave the place better than you found it.

BACKPACKERS

The Stove

The basic element in any backpacker's kitchen is the stove. While there are a number of models available, the big difference lies in the fuel they run on.

The most popular stove for beginners is the Trangia which uses methylated spirits (Meths). It is easy to use and works well in windy weather. Another big plus is the simplicity and reliability of the Trangia meths stove, having no moving parts and requiring no priming. It is nearly indestructible and meths is available from most pharmacies. About 1 litre will do two people for a weekend if you are careful about what you cook.

The only disadvantage is that it's not a hot fuel, roughly twice as much being needed for the same heat output as other fuels so it's comparatively expensive to run and it can be slow in cold weather. The Trangia is available is several sizes and comes with two pots, a frying pan which acts as a lid and a built in wind shield. It is also available with gas fitting.

TIPS

- An empty plastic 35mm film canister makes a good waterproof container for matches and a small piece of emery paper. Lighters are fine, but if wet, they can be hard to light.
- Backpackers can eat straight from the pan, or if there are several of you, bowls are the best choice. The only cutlery needed is a spoon, a pocket knife and a plastic mug.
- The inside foil bag of a wine box makes an ideal collapsible water container and will save on trips to the nearest water supply.
- Water purification may be necessary. High in the hills the water should be clean. Filters, chemical treatment (chlorine is best), or simply bringing water to a rolling boil are all methods of purifying water.

Stove Safety

All stoves are potentially dangerous and need to be handled carefully. Read the manufacturer's instructions thoroughly and practise outside in your garden before taking a stove on a trip.

Ideally you should always cook outside, and never in the tent. If it is raining cook from the tent or in the porch if the tent has one. When you do this make sure there is adequate ventilation as all stoves give off poisonous carbon monoxide fumes. Also ensure that nothing flammable is within touching or melting distance - provide a clear space of at least 30 centimetres in all directions. Many light weight fabrics used in tents and other camping equipment melt easily.

Refilling a stove should always be done outside, taking care not to spill fuel and that there are no naked flames nearby. Afterwards, ensure that fuel bottle caps are screwed down tightly before you light the stove. Use only fuel bottles which have been designed for the job and have been clearly labelled.

Meths burns with an almost invisible flame so do make sure that the Trangia burner has definitely extinguished and has cooled down before refilling.

KITCHEN

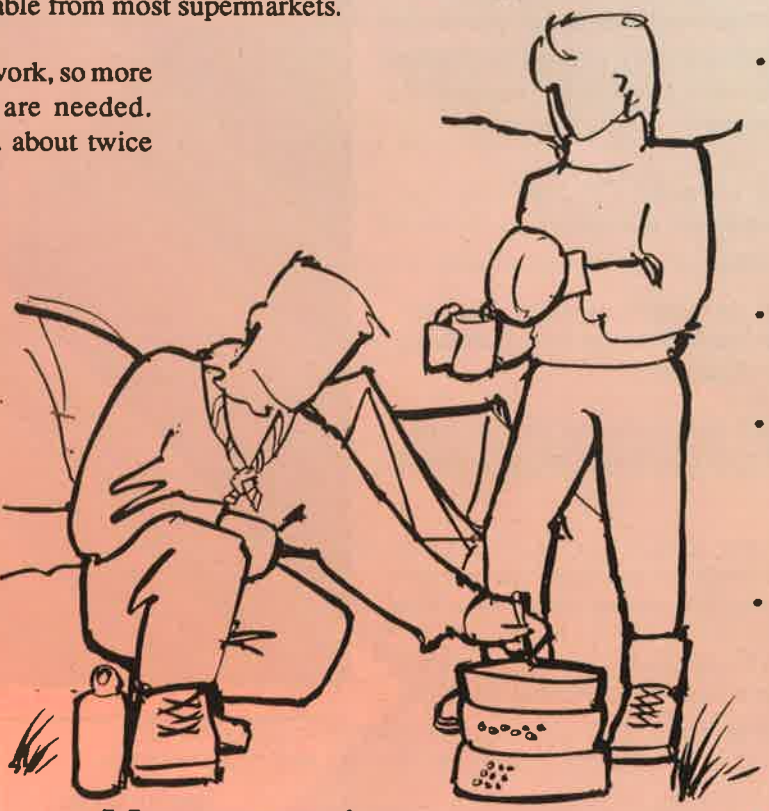
Food

The type and amount of food you eat is determined by how much you are prepared to carry. On long trips the weight of your food can become a problem. That's when specialist dehydrated and freeze dried foods are a good idea. There is a large variety of these available from most supermarkets.

Backpacking is hard work, so more calories than usual are needed. Therefore reckon on about twice your normal intake.

Foods that cook in a few minutes are best. That way you get a meal quickly and save on stove fuel.

However, quick-cook meals aren't noted for their taste and it is nice to add some fresh ingredients.



Menu suggestions

Keep weight and bulk down, but eat well and drink lots.

Avoid long cooking times which use up fuel.

If possible add fresh and homemade foods, but keep the packs light.

Snack food for eating on route is an important part of backpacker's menu.

Breakfast - ***The most important meal of the day***
Muesli, mix in powered milk and sugar at home, add hot or cold water. Frankfurter sausages are far easier to cook than the traditional fry. Bread buttered beforehand, pre-cooked hard -boiled eggs,dried fruit. Tea , coffee, drinking chocolate or dehydrated orange powder.

Dinner There is a huge variety of dehydrated meals available: quick-cook rice, pasta. Dried vegetables, "cup of soup", crackers. Avoid tinned food as it is heavy. Some instant desserts can be made with water. Dried fruit.

Lunch Sandwiches (made at home), cheese, cold meat, peanut butter, paté,fruitcake, biscuits, fruit, chocolate.A flask with a hot drink.

Snacks for eating on the move: nuts, fruit, chocolate, GORP & boiled sweets.

Emergency Rations Biscuits, chocolate, nuts, GORP, dried fruit and dates, Mars bars, Gluco tabs, boiled glucose sweets etc. Anything with a high sugar content and which will convert into energy quickly.

TIPS

- GORP - (Good Old Raisins and Peanuts) is an easy to make emergency ration. A mix of nuts, raisins, seeds, chocolate chips etc. It can also be eaten on the move as a snack food.
- Menu planning starts at home. Try a dish in advance; find out if you can cook it easily, how long it takes to prepare, amount of fuel used, cooked quantity and if you like the taste.
- Bring a small plastic bag for your rubbish.
- Leave surplus or unnecessary packaging at home. Cut out cooking instructions and repack food in lunch boxes.
- Mark commonly used volumes, measures, on the outside of food containers. How much does your spoon hold, your mug, your cooking pot?
- Pack all items for one meal together; this saves searching through rucksacks to find the necessary items.
- Plan to avoid monotony - take along a selection of 'extras' to add to the meal, eg. condiments, salt, herbs, soya sauce, an Oxo cube. Lightweight fresh food, such as peppers or mushrooms.
- 35mm film canisters can be used for oil, butter, soya sauce etc.
- Use the space inside the Trangia to store small items.
- For a weekend trip cook a meal at home, freeze it and bring this for your main meal i.e. stew, a curry...

Food provides the energy for the things we do. Make sure that you eat and drink well when hill walking, especially when you are wet and tired when it's tempting to just crash out in your tent.

MINIMUM

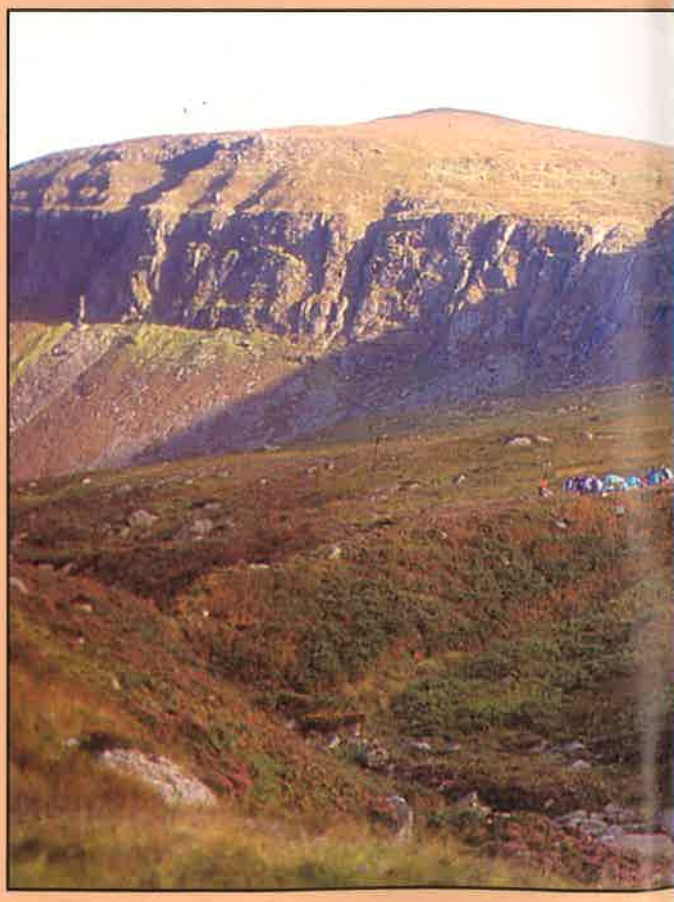
Our mountains and wilderness areas form part of a sensitive environment, under pressure from a whole host of activities and interests of which backpacking is only one. Even the remotest mountain belongs to someone. That someone may be you if it's in a National Park but it's far more likely to be owned by a farmer. In general they do not mind backpackers provided no damage is done. Always remember that farmland is a working environment and ensure that your presence is unobtrusive and does not interfere with farming,forestry or gamekeeping activities.

Walls and fences

- Use gates and stiles even if this entails a short diversion. Leave all gates as you found them.
- If it is necessary to climb a wall, do so carefully and replace any dislodged stones. If you need to climb a fence do so at a straining post which is the strongest part of the fence.
- Keep to footpaths across enclosed lands and avoid entering farm land containing livestock. Take extra care during sensitive periods such as the lambing season.

Litter

- Plan to minimise rubbish, particularly on overnight trips ie. repack food into lunch box containers and leave excess packaging at home.
- Bring all your rubbish home: It is useful to carry a plastic bag for this. Don't bury or throw it behind rocks, animals will dig it up!! Don't bury it in snow, it soon reappears!!



Fires

Sitting beside a blazing fire after a long day's walk watching the night sky is a romantic image but one that in many ways belongs to the past. The establishment of National Parks and the numbers of back-packers on our long distance walks means you have to think twice before lighting a fire. Cooking is best done on a stove. If you still want a camp fire do so with as little environmental impact as possible.

- Take special care not to let fires get out of control especially during dry periods. It can take between 10 and 20 years for burnt moorland to recover and more than 30 years for the full establishment of the original level of growth. It is an offence to light fires within forest areas.
- Don't cut live wood. Dead wood, although a good fuel source, is an important part of the natural cycle. So keep fires small to conserve wood.
- Select a safe non-scarring site such as a dry stream bed or flat rock.
- Completely extinguish a fire before leaving the site.
- Tidy up by dismantling the stone circle and replacing the rocks where you found them
- Try to leave the site better than you found it.

Take nothing but photographs

IMPACT

Plants and Animals

Wild animals and birds can be disturbed by human presence. During the nesting season birds may depart the nest for so long that the eggs will chill or the chicks will die, so:

- Avoid hanging around close to birds' nests, particularly birds of prey
- Keep dogs under control at all times and preferably on a lead as even their presence can frighten sheep.
- Don't pick or uproot plants and mushrooms. If a record is required, take a photo.
- Walk carefully so as to do as little damage to the vegetation and ground cover as is possible.
- If you want to see wildlife try to keep quiet as many of our native animals are shy and illusive.

Camping

- Avoid camping on water-logged ground where vegetation damage will be greater. Tents should not be pitched on the same spot for more than a few days
- Don't dig drainage ditches around tents; if the site is too wet, look for somewhere else.
- If boulders are used to hold down pegs or a fly sheet, replace them where they were found. This practice should be unnecessary if the tent is pitched properly and "Bull Dog" type pegs are used.
- Don't take boulders off ruined cottage walls, field boundries or any other feature as they form part of the local heratige.

Sanitation

Take care to minimise water pollution.

- All washing should be done well away from any water source. Any fouled water should not be returned to the water source, but poured into vegetation at least 100m from a water source. Soap isn't essential, but if you must use it, choose a bio -degradable type.
- Toilet waste should be buried in a hole at least 15cm deep within the top soil layer at least 100m from a water source. The soil should be replaced and trodden in. Toilet paper should be carefully burnt if it is safe to do so or else bury it as well.
- Even biodegradable items such as apple butts, banana skins and orange peel should be taken home.
- When washing pots avoid leaving bits of cooked food in streams or in the grass. Put it into an empty lunch box and bring it home for propper disposal.

How long will litter last?

Research has shown that most litter will be around for long time

Cigarette butts	1 - 5 years	Nylon fabric	30 - 40 years
Aluminium cans	500 years	Leather	50 years
Glass bottles	1000 years	Wool	1 - 5 years
Plastic bags	10 - 20 years	Banana peel / Orange	0 - 4 years
Plastic coated bags	5 years	Tin cans	50 years
Plastic film	20 - 30 years	Plastic bottle, styrofoam	Indefinite

Wildlife at a glance

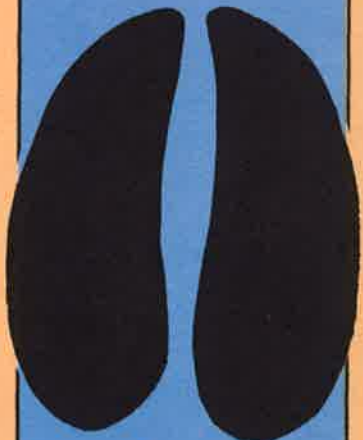
Otter

Badger

Hare

Fox

Red deer



Leave nothing but foot prints

Understanding Maps

Being able to interpret the information on a map and relate it to the terrain around you is the most important part of mountain navigation. It will help you locate your position, calculate the best route to take and how to avoid dangers such as crags and cliffs or a river en route, and of course being able to read a map will help you estimate how long a hike will take.

Conventional Symbols

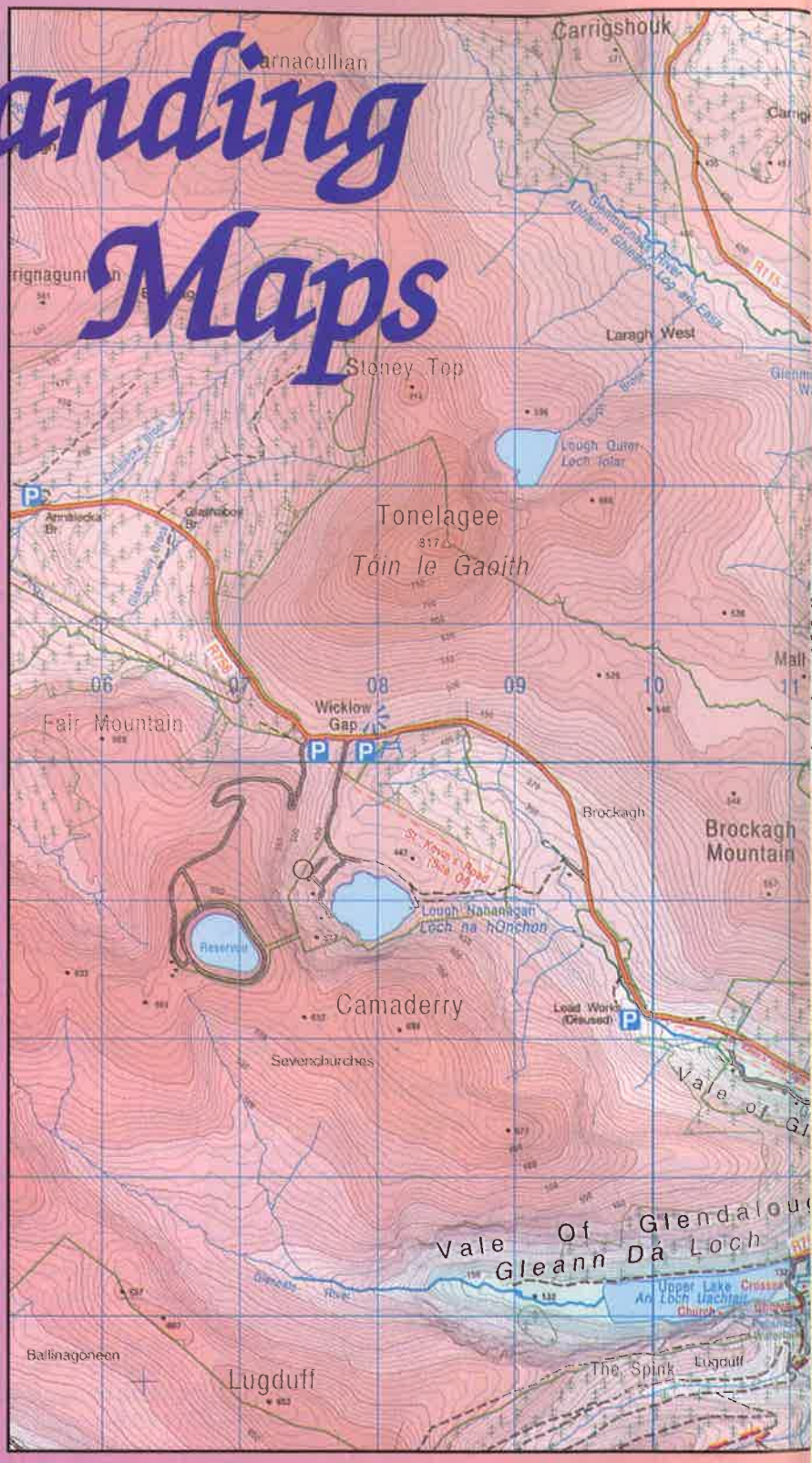
The newest maps in Ireland are made at a scale of 1:50,000. This means that 1cm on the map represents 50,000 cms (500m) on the ground.

2cm = 1km
2mm = 100m

The grid lines on the map are 2 cm apart this represent one kilometre.

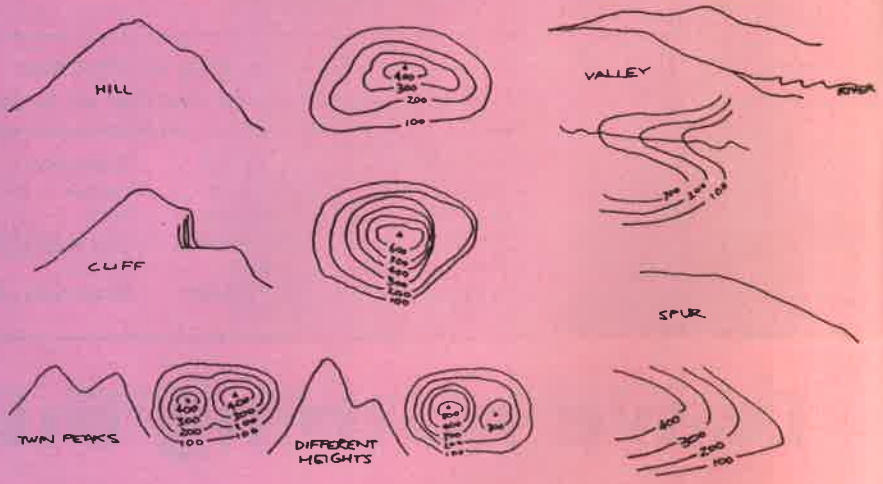
A map is a bird's eye view of an area where roads, houses, forests, lakes and so on are represented by lines, colours and symbols. By just taking a little time to look at your map closely you will get a lot of information. The signs used to represent objects are given in the key or legend. They change from map to map depending on the scale of the map and its intended use.

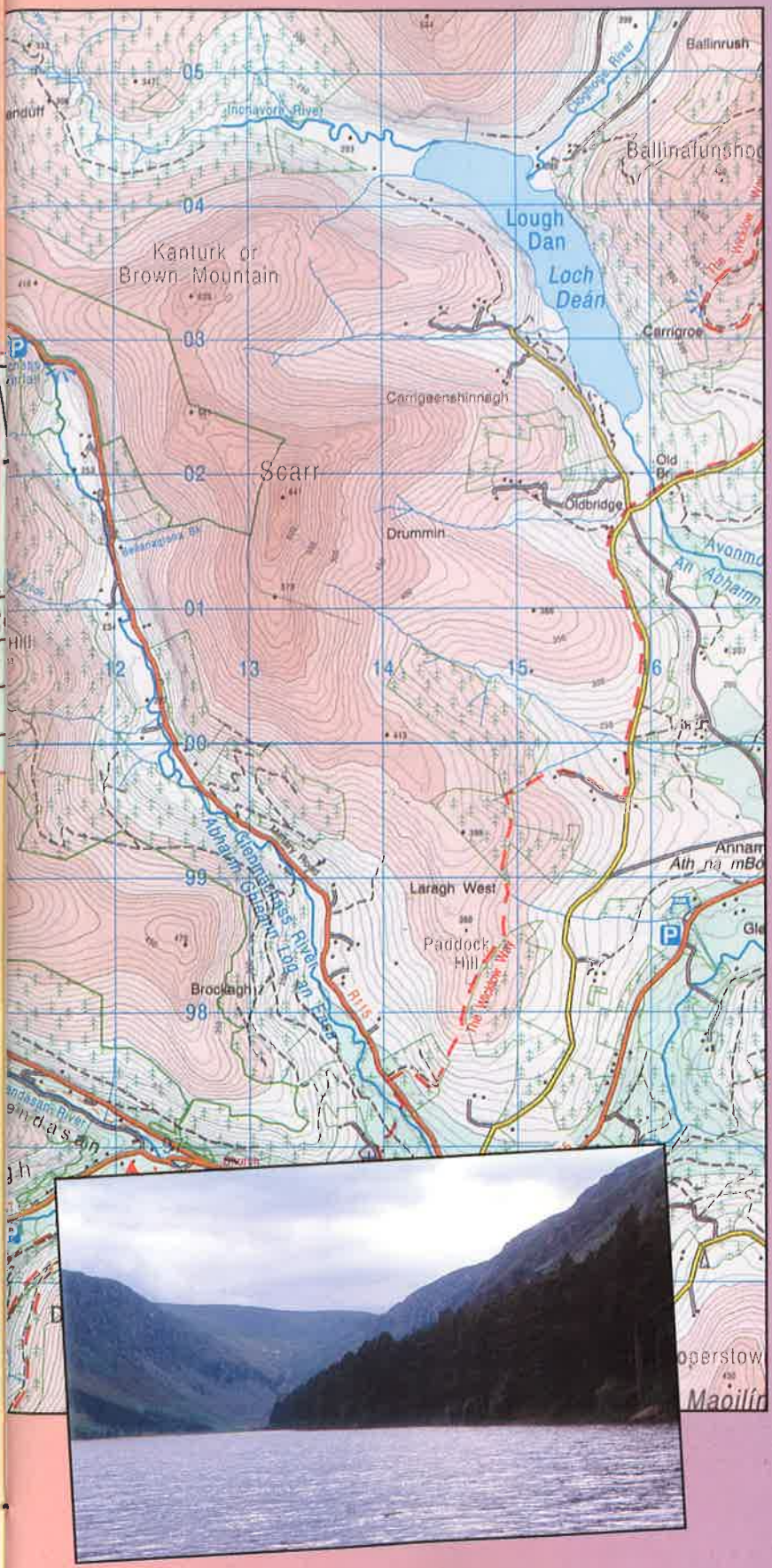
The cartographer can't put everything onto the map so be aware that some minor features such as streams or tracks may be left out. Also new features will appear after the map has been made such as newly planted forest, tracks etc.



Based on the Ordnance Survey by permission of the Government (Permit No. 6194)

While a map is flat, the ground is hilly. There are several ways we can tell the shape of the landscape from the map. COLOUR - rivers, lakes and the sea are blue, while low lying ground is green and mountains varied shades of brown, getting darker towards higher ground. Colour gives a good general over view but is of little use for accurate navigation. In some places SPOT HEIGHTS are used particularly for summits, knolls etc, that is, the height in metres is printed on the map. The most common method of representing height and showing the shape of the ground is by the use of CONTOURS.





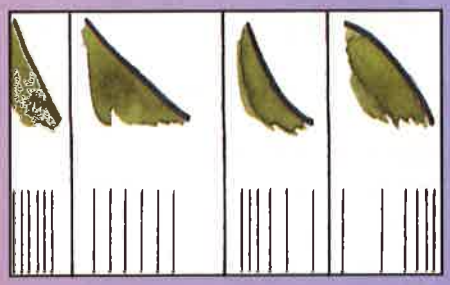
This photograph was taken near the car park in the Vale of Glendalough looking west up the valley. On the right above the trees you can see the steep ground and rocky crags. Note the Glenealo river at the far end of the valley which flows gently past the old mine before cascading steeply towards the lake.

Contours are imaginary lines following the surface of the ground at the same height. The most important part of map reading is being able to tell from the contours what the actual shape of the ground is like. The shape of the contours will tell you the shape of the ground, while their spacing will tell you its steepness.

This photo of Tonelagee was taken from the lead works looking north-west. Note the gentler slope on the left and the beginnings of the ridge leading to Brockagh mountain on the right. From this angle there is no visable sign of the steep sided corrie lake on the other side. Note the flat area in the foreground.

This photo was taken from the visitor centre car park looking west at the spur comming down from Camaderry mountain. What we see is only the beginning of the spur to above tree level but to the right there is just a glimps of the longer ridge to the summit.

Where the contour lines are close together the slope is steep and where they are far apart, the gradient is gentle. Contours will, therefore, enable you to select the least tiring route up a mountain and will warn you if the ground is too steep or even dangerous.



Cliffs are not marked with a symbol on the 1 : 50,000 OS maps as this would obliterate the contour detail.

The interval between contours is 10 metres.

To calculate height, every fifth contour (the INDEX contour) is printed heavier and occasionally the height in metres is printed along the contours.

Tips

- Your ability to calculate distance and height from the map improves if you can visualise them in reality. Do you know what 100 metres actually look like.
- Use the magnifying lens on your compass to show up the fine detail in the contours.

Grid References

Using the numbered grid printed on the map we can get a set of co-ordinates to pin-point any place, whether it has a name or not. The National Grid divides Ireland into 25 zones, each of which is sub divided into 100 one kilometre squares which you see on the map.

Giving a Grid Reference

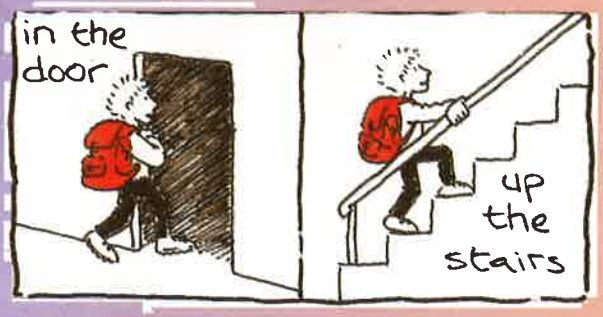
A grid reference consists of a letter identifying the zone (as occasionally parts of several zones appear on the one map) followed by 6 numbers.

Give the grid numbers from the bottom of the map before those at the side. To pin-point a location we need to divide the sides of the grid squares into tenths.

This can be done by eye or using a roamer found on most Silva type compasses or on a navigation card. For your convenience the grid numbers are also printed across the map so that you can give a reference even when the map is folded in a map case.

Tips

- If you are in doubt, an example is given on the map.
- Remember you have to go **in the door** before you can go **up the stairs.**



Setting a map by eye

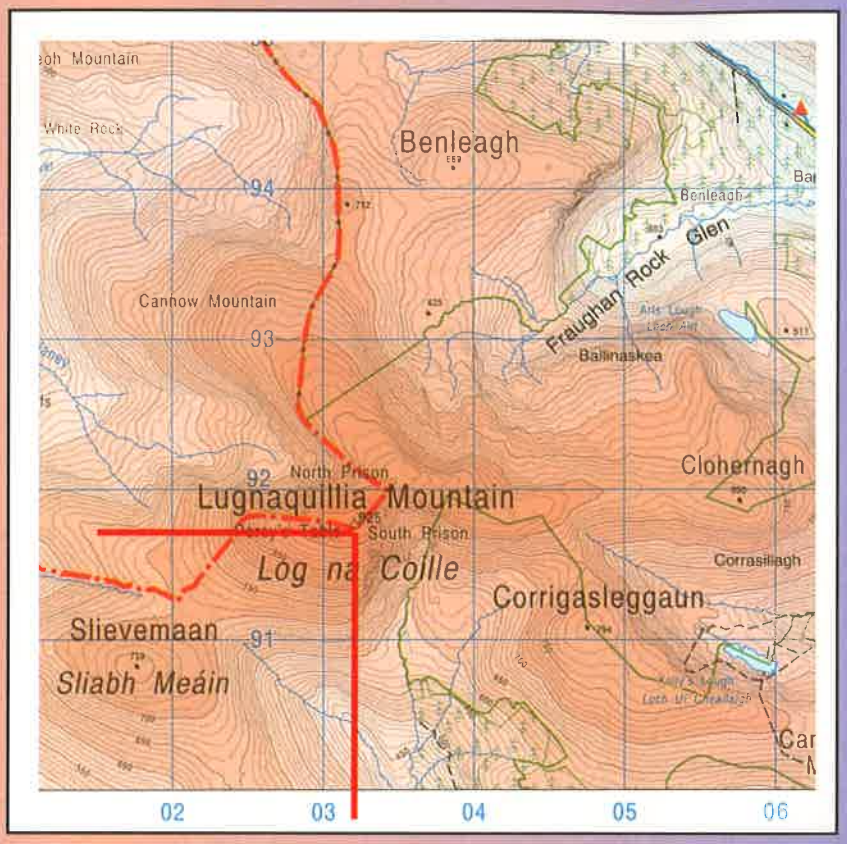
We set a map to help us relate the map to the terrain. It simply means turning the map around until it coincides with the countryside around you. Where the visibility is good or the terrain is familiar it is easy to set a map by simply identifying points on the ground and on the map, then rotating the map until it matches the countryside. It may mean that the map is sideways or upside down as you are hiking, but you can still read the map this way.

An experienced hill walker gets into the habit of having the map set all the time as it helps to identify features, visualise the route ahead and generally avoid getting lost.With the map set feature recognition both near and far becomes easier.

How to give a grid refrence for the summit of Lugnaquilla Mountain

Give the zone letter.(T)
Give the number at the bottom first.(03)
To pinpoint the exact spot, imagine that the grid square is divided into tenths.(031)
Give the number at the side next and again divide the grid square into tenths.(917)
Use the roamer on your compass or navigation card to divide the grid square into 10ths for more accuracy.

The grid refrence for Lug is T 031 917



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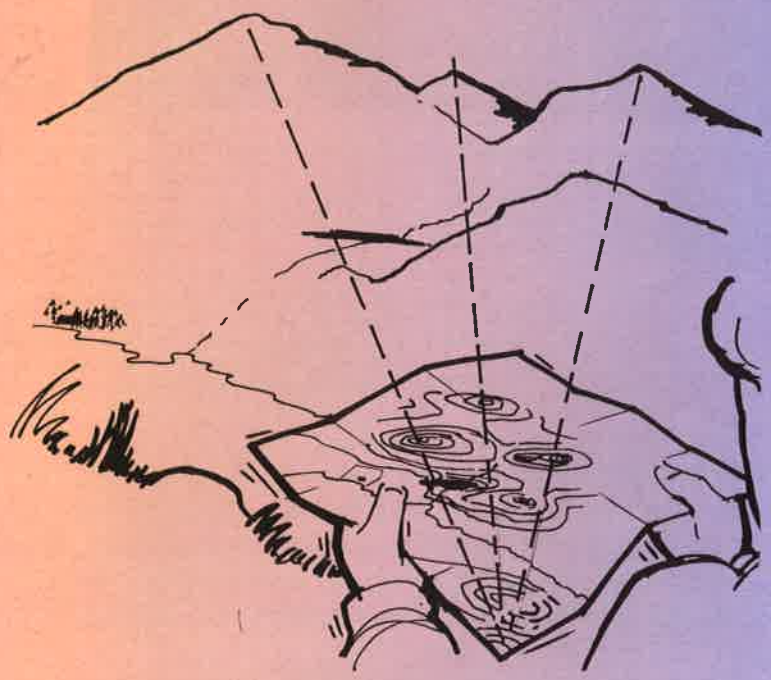
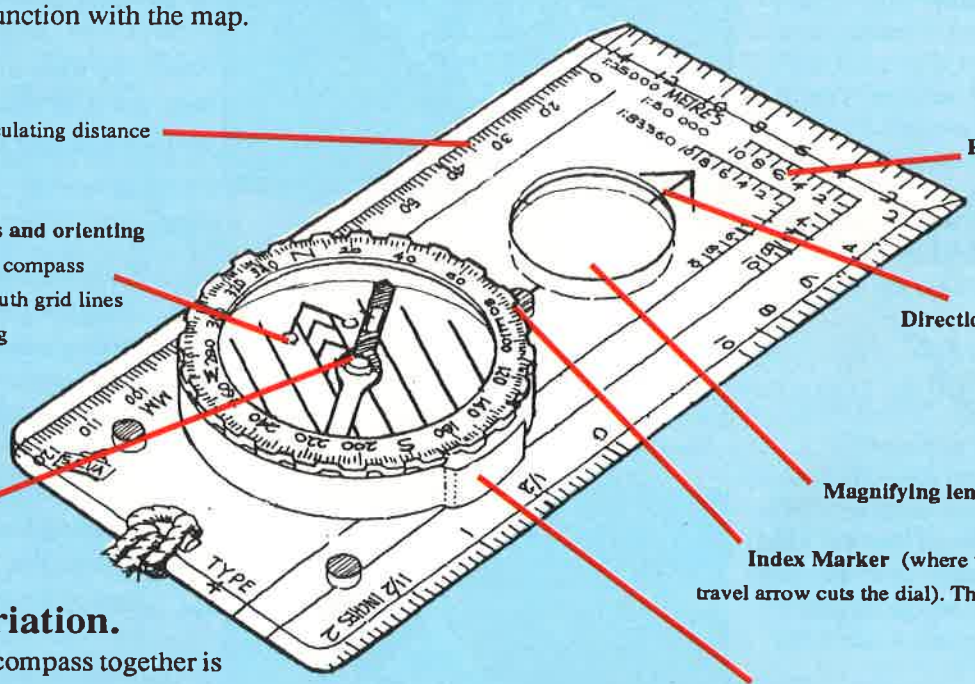


Your Compass

The protractor compass

The protractor type compasses such as those made by Silva are light, reliable and accurate for mountain navigation and with their see through base plate are ideal when used in conjunction with the map.



Measurements for calculating distance on the map.

Parallel orienting lines and orienting arrow used to align the compass dial with the North - South grid lines on the map when getting a bearing.

The magnetic needle The red end points to magnetic north.

Roamers for several scale maps used to help give accurate grid references.

Direction of travel arrow points the way you have to go when following a bearing.

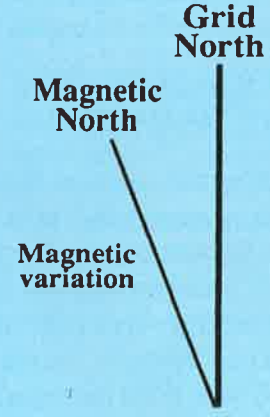
Magnifying lens to help with map detail.

Index Marker (where the tail of the direction of travel arrow cuts the dial). This is where you read your bearing.

The Compass dial is a 360° protractor used for calculating angles known as bearings.

Magnetic variation.

Using a map and a compass together is complicated by the slight difference between north at the top of the map and shown by the grid lines on the map (Grid North) and north indicated by the magnetic needle of the compass (Magnetic North) which points to an area of magnetism caused by the earth's rotation. This difference is called the magnetic variation and varies from place to place as well as with time. The magnetic variation will be given on the map for that particular area.



Setting a map by compass

In bad weather or in unfamiliar or featureless country, using a compass is the only reliable way to set your map. Again, the purpose is to orientate the map so that it coincides with the countryside around you and will make route finding and feature recognition easier.

To do this, simply place the compass on the map and, while holding it flat, turn both the compass and the map until the red end of the magnetic needle points to north on the map.

Tips

- Your compass should be hung around your neck on a boot lace long enough to allow you to use the compass with the map to calculate a bearing.
- When using your map and compass out in the open, get down on your hunkers and use your knees as a table.

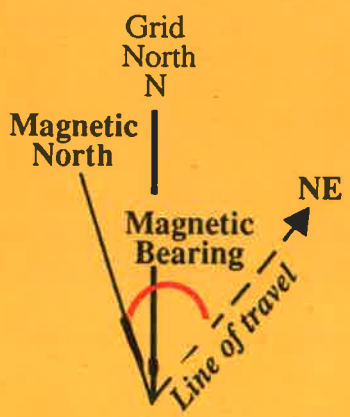
Getting your bearings

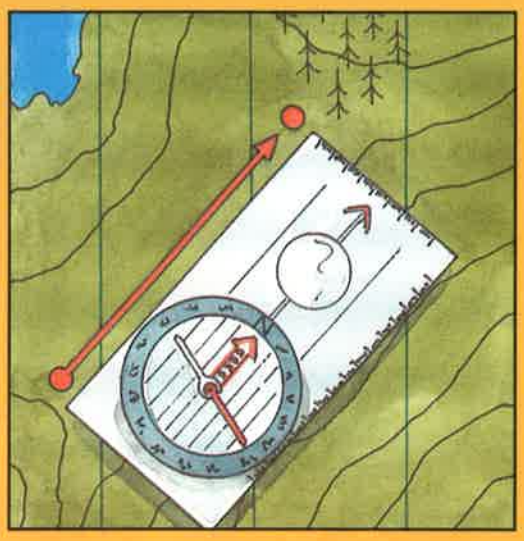
A bearing is the angle between the direction you want to travel and North. The compass dial is basically a protractor to help calculate these angles using the north south grid lines on the map as a baseline ie north is 0°. So if you are walking towards the East, you are on a bearing of 90° from North. If you are going North East you are on a bearing of 45° from north etc.,

Because there are two types of North, there are also two types of bearing. Grid bearings which are taken from the map are based on grid north indicated by the top of the map.

Magnetic bearings, which are taken from a feature in the landscape, are based on magnetic north. The difference between the two is known as the magnetic variation. It is not constant: it changes with both time and place. The magnetic variation for your area will be given on your map. It will need to be added or subtracted depending on what you are trying to do. Just remember when going from:

"GRID" TO "MAG" YOU ADD
"MAG" TO "GRID" GET RID





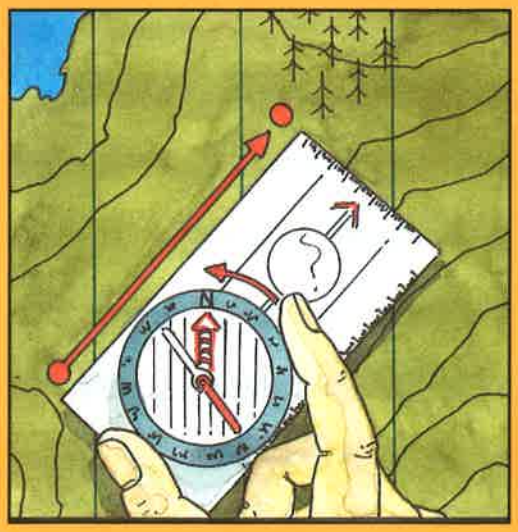
Grid Bearings

In poor visibility or in unfamiliar terrain when you are not sure which way to go you can take a grid bearing from the map, change it to a magnetic bearing by adding the magnetic variation and then walk in the direction shown by the direction of travel arrow on the compass.

First, you have to calculate from the map the grid bearing between your position and your intended destination.

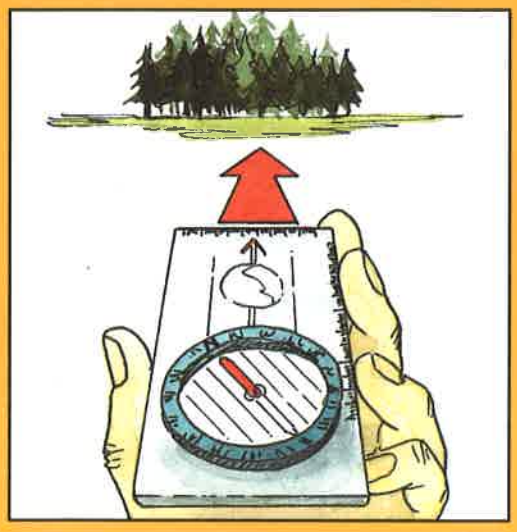
To do this:

a) Place the edge of your compass along the line you want to travel making sure that the direction of travel arrow points to where you want to go.



b) Rotate the compass dial until the orienting lines in the dial are parallel to the North - South grid lines on the map, making sure that the N on the dial points to the North on the map. The direction of the compass needle does not matter because you are only using the compass as a protractor.

The grid bearing can be read at the index marker where the compass dial is intersected by the direction of travel arrow. To convert this grid bearing into a magnetic bearing which you can walk on, add the magnetic variation by turning the compass dial the appropriate number of degrees for that area.



WHEN GOING FROM 'GRID' TO 'MAG' YOU ADD

c) Holding the compass flat in the palm of your hand, turn round until the magnetic needle lies on top of the orienting arrow (the red end of the magnetic needle pointing to the N on the dial). Then walk in the direction shown by the Direction of travel arrow.

Welcome to

Pullout

SCOUTING IS FOR YOU

Scouting is a youth movement that's all about you. Its your chance to organise your own activities and get away with your friends. To help you with ideas, we have included in this leaflet an award scheme of 7 badges. They are all based on camping and backpacking and are designed for those of you who want a challenge and who want to have your achievements recognised. The information needed to complete the awards can be found in the two booklets "Scout Camping" and "Hillwalking and Backpacking".

The Awards are not intended to be the be all and end all. They are just a spring board for your own imagination. They are designed to give you some outdoor skills and more confidence so that you can put your own ideas into action and come up with your own activities.

Use this leaflet as a record of your progress and to give you ideas on what you need to learn or plan before one of your activities.

WHAT'S IN IT FOR YOU

- **New Skills**
- **Outdoor activities**
- **Challenge and adventure**
- **Satisfaction**
- **Enjoyment and a lot of "craic"**
- **A chance to get away with your friends**
- **Increased confidence**
- **A chance to have your achievements recognised**
- **A chance to design your own programme and run your own activities**
- **A non competitive challenge for you and your friends**

SUPPORT ACTIVITIES

There are several annual events that you and your friends may want to participate in and use as a theme for your own programme.

The Smythe Cup is the National Camping competition. This is a patrol competition with teams of 6 - 8 Scouts competing to be the best campers in Ireland. The level of skills expected are outlined in the Scout Camping booklet. District heats are run in the Spring and the finals are held in late August each year.

The Sionnach Adventure is a backpacking weekend for scouts who are 14 or over. It is held in various locations each Autum when teams of 4 Scouts and 1 adult Leader organise their own food, tentage, equipment and then participate in a route which has activity and skills bases along it. The hill walking and backpacking booklet gives all the information you will need to plan and prepare for a Sionnach.

The Fia is a local event of a similar nature to the Sionnach for all ages but run by your district. It is not quite as challenging but is still a great weekend.

PEAK is a week-long adventure course held in Kerry every Easter. It is open to any scout who is 14 or over but is limited to 36 places. The programme includes a whole range of outdoor pursuits and skills training and culminates in the participants organising their own overnight expedition in the Reeks.

The Chief Scout's Award is a personalised award for those who are over 14 where each individual can decide on their own challenges in five categories. These categories are Expedition, Environment, Personal challenge, Day Activity and Qualification. From the time you apply you have one year to complete the 5 challenges keeping a log book of your award activities. This is then sent to the Chief Scout who then assesses your effort and if successful awards you the Chief Scouts' Award.

Information on all these events can be found in Scouting Ireland magazine and from your regional office.

YOUR PATROL

In Scouts you do most of our activities with a small Group of friends called a Patrol. These small groups of 6-8 Scouts can vary from troop to troop depending on the local situation. In some cases they are made up of Scouts of the same age and ability, while in others there is a range of ages in the patrol. Some are mixed, while others are boys or girls only. Occasionally patrols are formed for a short period of time to undertake a special project such as a First Aid course or for an expedition etc. What's important is that you work as a team and that everyone has a say and gets a chance to put their ideas into action. Usually there will be an adult leader working with you and to help and advise you if you need it. Scouting is all about you so make sure you run the show.

UNIFORM

The scout uniform is a shirt or sweat shirt and your group scarf. It is not intended to be smart or used on parades but hard wearing and practical for outdoor use. Many groups also produce their own tee shirt unique to them, or one for a special event or summer camp.

Camping ... Are you ready?

Camp skills

With your friends go on 3 camping trips. **Leader's initial & date**

Before you go	Know what personal kit to bring and how to pack a rucksack.	
	Choose a campsite giving reasons for your selection.	
On camp	Build an altar fire and know how to light a fire.	
	Prepare and cook one of the camp meals.	
	Help to pitch and strike a tent.	
	Demonstrate that you know how to use equipment such as axe, saw, a stove and Tilly lamp.	
	Show that you know the proper way to store food and how to dispose of waste properly.	
After the camps	Do a debrief to see what needs to be improved upon?	
	Did you practice environmentally friendly camping?	

Help organise your annual camp or expedition (this should be of a least 4 nights duration)

Before you go	Take responsibility for an aspect of the pre-camp planning i.e, help find a suitable site, work out a budget and plan the menu, check the troop equipment.	
When there	Help train others in the proper use of equipment such as axe, saw, stoves and pressure lamps.	
	Take responsibility for an aspect of the camp programme e.g, a day hike, a pioneering project, etc.	
Afterwards	Organise a slide show or presentation evening for your parents and friends or put up a static display in your community or school.	
	Do a gear check what needs repairing or replaced	

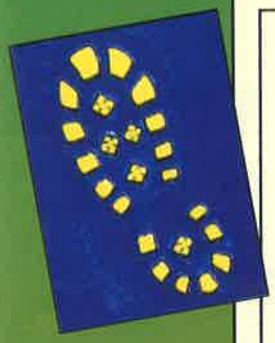
Backwoods weekend

Organise a backwoods weekend with your friends.

Before you go	Find out about hypothermia, wind chill and mountain safety.	
	Do a gear check and get a weather forecast.	
	Put together a personal first aid kit.	
On the event	Sleep out in an improvised bivvy or bivvy bag.	
	Cook a meal backwoods style.	
	Make a simple route card and go on a short environmental hike	
	Find north using the stars.	
Afterwards	Do a debrief to assess whether you would be able to survive an unexpected night in the hills.	

Hillwalking & Backpacking

Just do it!



Here are a few challenges to help you put the theory into practice.
Badges are available from the Outdoor Adventure Store.

DAY HIKES

As part of a group go on 4 day hikes keeping a short log of each walk.

Leader's Initials & date

Before going	Help to make a route card.	
	Know what personal and group gear to bring.	
	Know about the layering principle to clothing.	
	Know what to do in case of an emergency.	
On each hike	Do a gear and weather check just prior to departure.	
	Navigate using your map, compass and route card.	
After each hike	Do a bebrief where you can identify things you need to improve on. Where your route card calculations accurate, what would you change next time?	

24 HOUR MOUNTAIN SURVIVAL EXERCISE

As part of a group take part in an over night bivvy.
Why not select an unusual location such as a hill top or beside a corrie lake.

Before you go	Show that you know about Hypothermia, it's signs, symptoms and treatment	
	Understand the effects of wind chill.	
	Make up your own emergency ration (GORP)	
On the activity	Bivvy out using a bivvy bag.	
	Survive on a menu of dehydrated foods.	
After the activity	Do a debrief not only on the event itself but on the mountain survival skills of the group. If you got lost or benighted or a member of your group was injured on a hike would you know what to do? Set personal goals to improve your survival skills	

LIGHTWEIGHT EXPEDITION

With a group of friends plan and carry out a backpacking expedition along one of the way marked trails or similar route.

Before going	Select a suitable route and plan a detailed route card using a map and guide book.	
	Plan a menu of mainly dehydrated foods.	
	Know how to pitch a hike tent & use a trangia stove.	
	Know what to bring and how to pack a ruck sack.	
On route	Camp out at least one night.	
	Cook a meal on a trangia stove.	
	Take a turn at doing the navigation.	
	Show that you practice minimal impact camping.	
After the event	Do a debrief, and set yourself personal goals to improve your backpacking skills i.e. did you work well toether? How was your navigation? What about the gear, the weight of the packs and the menu?	

FIRST AID Go on a basic first aid course run by a recognised body such as the Irish Red Cross, St John's Ambulance, Civil Defence or Order of Malta. Or do a Rescue Emergency Care course.

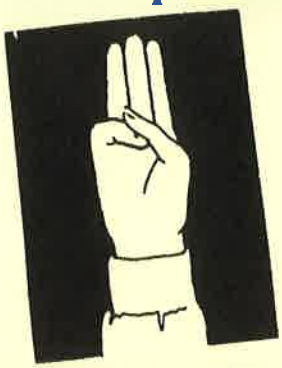
THE SCOUT LAW AND PROMISE

Scouting is the world's largest youth movement with over 20 million members in more than 150 countries. Its not just about activities such as camping and backpacking it's about giving you the skills that will be useful in any walk of life. Skills such as teamwork, decision making, problem solving, leadership and self reliance and its also about values.

Scouts all around the world promise to do their best to live up to a set of shared values known as The Scout Promise and Law. Living up to these is not always easy but therein lies the real challenge of Scouting. To become a Scout you have got to show that you can live by these values and promise before your peers to do your best to live up to them. When you're ready to do this you can be invested as a Scout. Perhaps this idea of honour, trust, loyalty, respect for others and for the environment isn't cool these days, but its all about how we deal with others and how we would like them to treat us.

THE SCOUT MOTTO

Be Prepared.



THE SCOUT SIGN

THE LEFT HAND SHAKE

Baden Powell "BP"
Founder of the Scout Movement.

THE SCOUT PROMISE

I give you my word,
I can keep a commitment

I care about the environment

On my honour,
I promise that I will do my best,
do my duty to God and to
my country
to help other people and to keep
the Scout law

I stand up for what I believe in

I don't wait to be asked to help out

Sticking by my friends

Treating everyone as an equal

LOUGH DAN ADVENTURE CENTRE

Scouting Ireland SAI has several campsites and activity centres around the country. Lough Dan Adventure Centre is situated in the heart of the Wicklow mountains national park and offers a range of training courses, expedition programmes and summer camp options. For more information contact.

Lough Dan Adventure Centre,
Roundwood, County Wicklow.
Tel: 01-2818137

THE OUTDOOR ADVENTURE STORE

Scouting Ireland SAI has its own Outdoor Adventure Store. Here you can get the best advice on what to buy for yourself and for your patrol at very competitive prices. And not only that, any profit the Store makes goes straight back into Scouting to help us provide you with back up services and support programmes.

Outdoor Adventure Store,
34 - 35 Upper Liffey Street, Dublin 1.
Tel: 01-8725177 Fax: 01-8725183.

Concern for the environment

Keeping my cool

I look before I leap

THE SCOUT LAW

1.- ***A Scout is trusted.***

2.- ***A Scout is loyal.***

3.- ***A Scout is friendly and considerate.***

4.- ***A Scout is a friend to all Scouts.***

5.- ***A Scout has courage in all difficulties.***

6.- ***A Scout makes good use of time and is careful of possessions and property.***

7.- ***A Scout has respect for themselves and for others.***

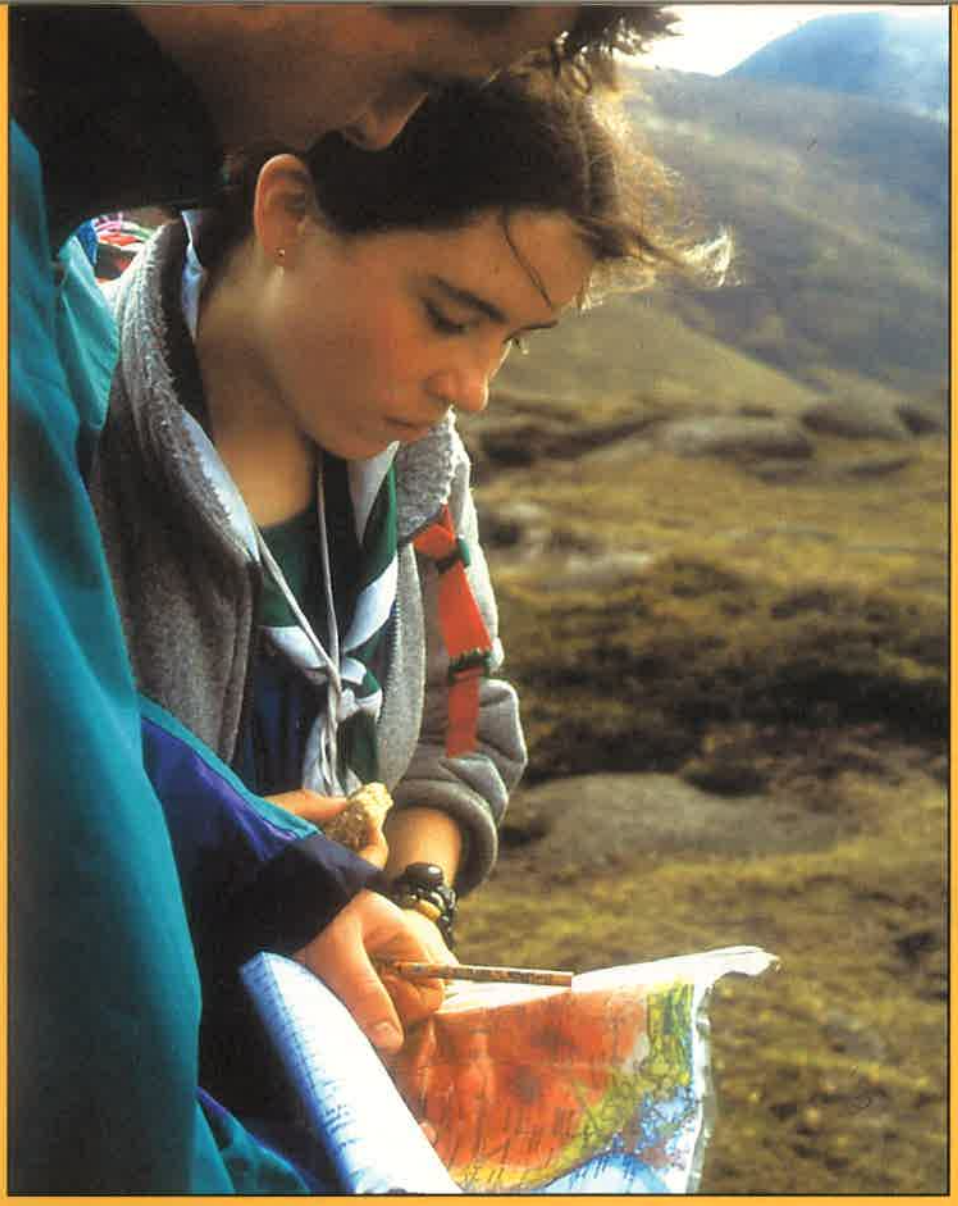
Giving someone a hand when they need it

To be the best I can be.

Trusting, loyal, a friend and brother, courageous, careful, respect for others.

Cool is what I am not what I do

Leaving a place better than I find it



Walking on a bearing

Whenever possible select a point ahead which is on the route (a boulder, a hilltop) and walk towards it instead of continuously looking at your compass . When that point is reached or can no longer be seen, take up the compass again, with the same bearing and find a new point ahead. Repeat this until you reach your destination.

Tips

- When calculating bearings roughly figure out what it should be by just looking at the map, ie., 35° - 40° so that you will know if you make an error when using the compass.

- Common errors include aligning the orienting lines in the dial with the wrong gridline on the map. Or by placing the compass on the map with the direction of travel arrow pointing in the opposite direction to the way you want to go.

- Walking straight on a bearing often leads through rough ground, and un necessary ups and downs. If the visibility is good it is usually easier to walk and navigate by following line features or 'handrails' (ridges, streams, etc.) and by careful reading of the contours rather than by bearings.

Trust your compass

Some times your sense of direction may tell you that your compass is wrong, Check the bearing again and make sure no metal object is affecting your reading, eg. belt buckle. If there are no mistakes trust your compass.

Navigating around an obstacle.

When moving across open country, you are likely to encounter some sort of obstacle. If it is big you should have seen it on the map and made allowance for it already, but sometimes you will have to avoid boggy areas or a newly planted forest. You will have to go around it without losing your bearing. If you can see across it there is no problem. Just take a bearing on some landmark on the other side and walk around until you reach it and continue on your journey. If you can't see over the obstacle, then you will have no option but to go around it in a series of right angled legs to be certain you come back on line on the far side.

Back Bearings

Back bearings are useful if your destination goes out of view or becomes obscured by mist or cloud, but your point of departure is still visible.

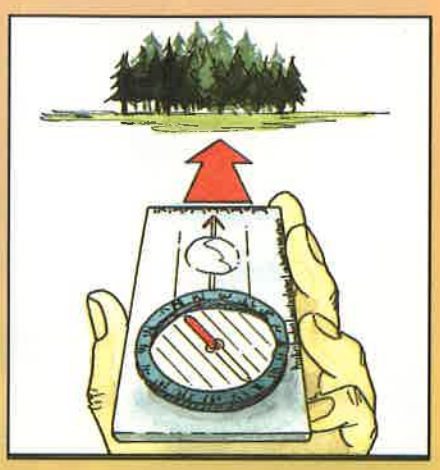
To check you are still on your bearing simply point the compass at your point of departure and the southern end of the compass needle should cover the red orienting arrow in the compass dial if you are still on course.

If not, correct yourself by walking a little to the right or left until the needle lines up and then continue along your original bearing.

Identifying a Feature

You should be able to take a bearing of a feature in the landscape and know how to identify it on the map. For example, to identify a peak seen in the distance.

Tips
The map does not need to be set - but by setting the map you may be able to identity the feature straight away.



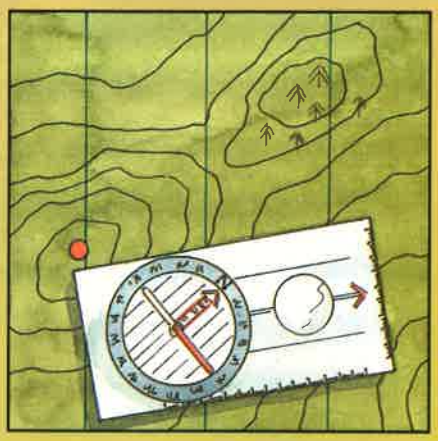
Using your compass

Stage 1

Calculate from the countryside the magnetic bearing between your position and the feature to be identified. To do this:-

a) Point the compass directly at the feature you wish to identify.

b) Turn the compass dial around until the red orienting arrow lies directly under the red end of the magnetic needle. (Put the red to bed)



c) The magnetic bearing is given at the index marker where the direction of travel arrow meets the compass dial.

d) Convert this magnetic bearing to a grid bearing by subtracting the Magnetic Variation.

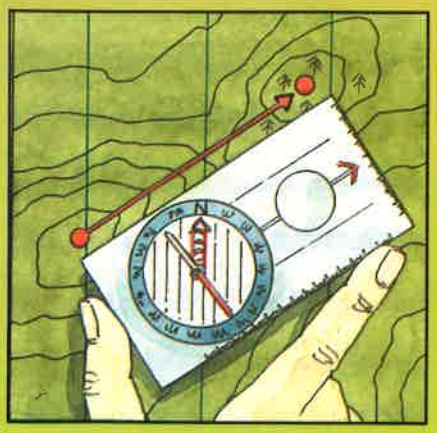
MAG TO GRID, GET RID

Stage 2

To identify the feature on the map:-

a) Place the long edge of the compass on your position on the map.

b) Pivot the whole compass around this point until the orienting lines in the compass dial are parallel to the north-south grid lines on the map, making sure that north on the compass dial points to north on the map.



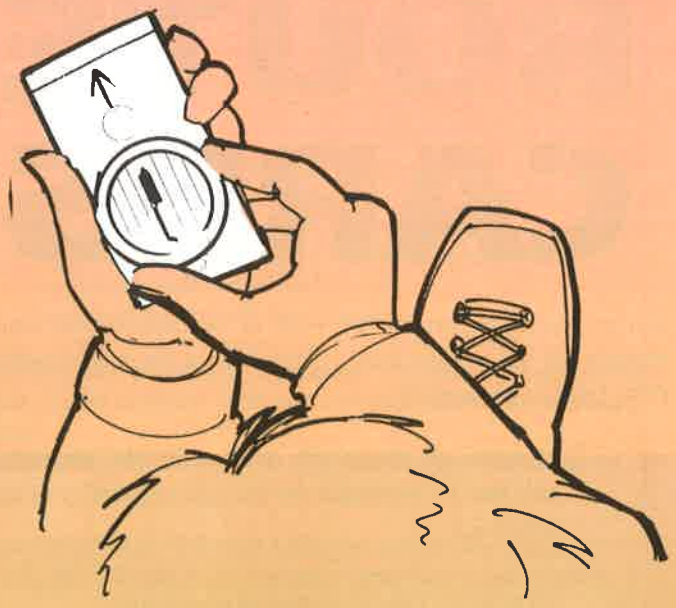
c) The same edge of your compass should pass through the feature you are trying to identify.

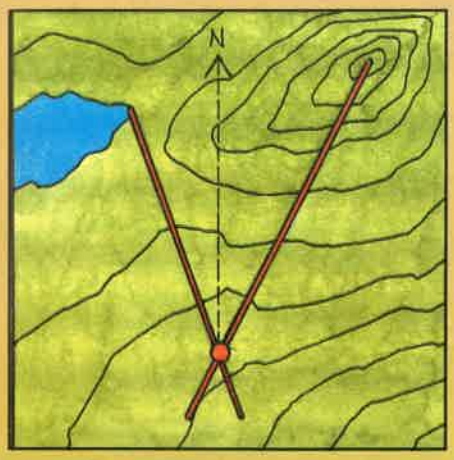
Tips
Some compasses have long parallel lines in the base plate. These are easier and more accurate to use than the edge of the compass.

Cross bearings

I f you are not sure of your exact location you can use bearings to pin point your position.

- Identify at least two features which you can locate on the map.
- Using your compass take a magnetic bearing on each feature.
- Convert these to grid bearings by subtracting the magnetic variation. (Mag to Grid get Rid)
- Plot both bearings on the map and where they cross should be your location.





Tips

- More accuracy is obtained by taking three bearings and plotting the three lines on the map. Then your position is somewhere in the triangle where the three lines almost meet. If the triangle is large check the features and bearings.
- If you are along a line feature such as a stream or ridge but do not know exactly how far along it you are, you can pinpoint your position by taking a single bearing on an identified feature and then plotting this on your map. Your position is where the plotted pencil line crosses the line feature.

ROUTE CARDS

Before setting out on any hill walk or expedition, you should always fill out a route card. They look a bit complicated at first, but are important:

- To estimate the length of time for the expedition, and see if it's suitable for the age and ability of those involved.
- To act as a checklist during planning.
- To have on hand, during the route, a set of carefully calculated times and bearings for accurate navigation in rough terrain or in bad visibility.
- To have on hand important information regarding group members, gear, weather etc.
- To leave a copy with a responsible person for use in an emergency.

A knowledge of basic mountain navigation techniques is needed to fill out a route card properly. Therefore, learning how to fill out a route card goes hand-in-hand with learning mountain navigation. This route card is designed in a step-by-step way, particularly for beginners. Once you get the idea you can design your own which need not be so detailed.

The grid reference for Glencree YH at the start of this leg is O141180 and for Spot height 492 your destination in this leg is O155189

The best route to follow is by the road and stream using them as a handrail feature to get to the spot height. It is still handy to have the magnetic bearing.(49°)

BREAK YOUR ROUTE DOWN INTO COVENIENT STAGES . NAME OR DESCRIBE THE LANDMARK AT THE BEGINNING & END OF EACH STAGE	GRID REFERENCE	BEARING / FEATURE	PACE
START		1.	
GLENCREE	0 141 180	STREAM	3
SPOT HEIGHT 492	0 155189		

Estimate your walking speed. 3 km/hr is a good averge for a beginners group carrying packs.

Walking at 3km/hr then 1km will take 20 mimutes and 100 metres takes 2 minutes. The 1900 metres will therefore take 38 minutes.

When you have done this for every leg of your route remember to add time for rests. Allow about 10 minutes per hour and a little for lunch.

SAMPLE ROUTE
Glencree to Knockree Youth hostels via Prince William's Seat.

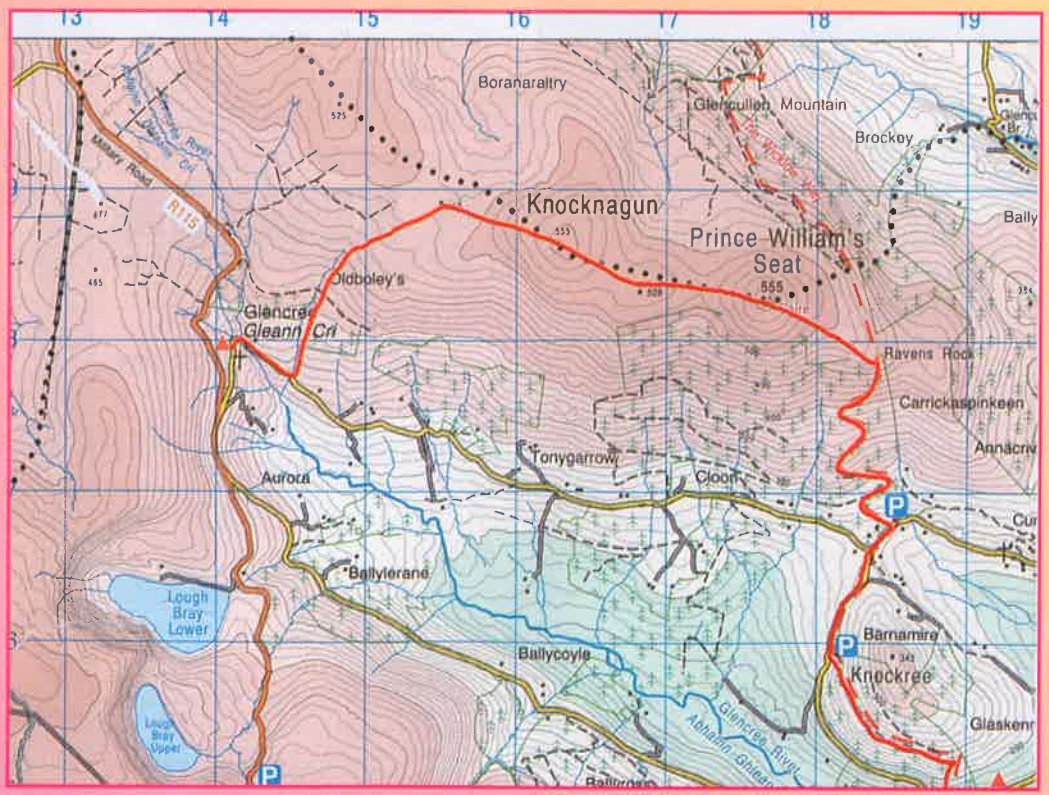
Break the route into logical legs. Glencree to spot hight 492.

492 to the summit of Knocknagun.

Knocknagun to the cairn on Prince William's Seat.

Cairn to car park O185169

Car park to Knockree youth hostel.



The distance from Glencree youth hostel to spot height 492 in the col is 1900 metres. Almost 2 kilometres.

The hight climbed in this leg is 170 metres. Each contour line crossed is 10 metres.

	DISTANCE IN METRES	HEIGHT CLIMBED IN METRES	DISTANCE TIME	HEIGHT TIME ALLOWANCE	WALK TIME
	3.	4.	5.	6.	7.
2 km	1900	170	38	17	55

Allow 1 minute for every 10 metres climbed so that's another 17 minutes.

Add the distance and height times to get the walk time for that leg of the route, 55 minutes.

Break up your intended route into logical legs and for each location give its name and grid reference.

Column 1 For each leg give the magnetic bearing or name of the feature you intend to follow, e.g, track.

Column 2 For each stage, determine the speed at which you think the group will walk. This can only be gauged by experience, here is a guide

5km/h	Very fast, day pack
4km/h	A good pace on good ground and light pack
3km/h	**Average pace with back-pack**
2km/h	Rough ground with back-pack

Column 3 Measure the distance of the leg in metres. The grid squares on the map are 1km (1000 metres). You can use the centimetre scale on your compass.

On the 1:50,000 OS map; 2cms represents 1 km, 1mm = 50 metres.

Column 4 Work out the height you'll be climbing in metres for that leg.
On the 1: 50,000 OS map the contour interval is 10 metres.

Column 5 Calculate the time it will take for each leg based on the distance in metres. If you walk at :
2km/hr, then 1km = 30 minutes (100 metres = 3 mins)
3km/hr then 1km = 20 minutes (100 metres = 2 mins)
4km/hr then 1km = 15 minutes (100 metres = 1.5 mins)
5km/hr then 1km = 12 minutes (100 metres = 1.2 mins)

Column 6 Based on the height climbed in each leg (column 4), enter the extra time that it will take.
Allow 1 minute for every 10 metres climbed.

Column 7 Walk Time. Add the time taken for the distance and the height climbed (column 5 & 6) to give you the time for that leg.

Totals You can now work out the totals, allowing about 10 minutes per hour for rests, and decide if the hike is suitable for the party.

Work out suitable escape routes in case of bad weather or if you have a incident en route. Keep them simple and easy to understand in case of an emergency, eg. head east to farm house.

After the hike have a debrief about the route and the time it took. This can help in future planning, ie. did you walk faster or slower? Was it steeper than you thought?

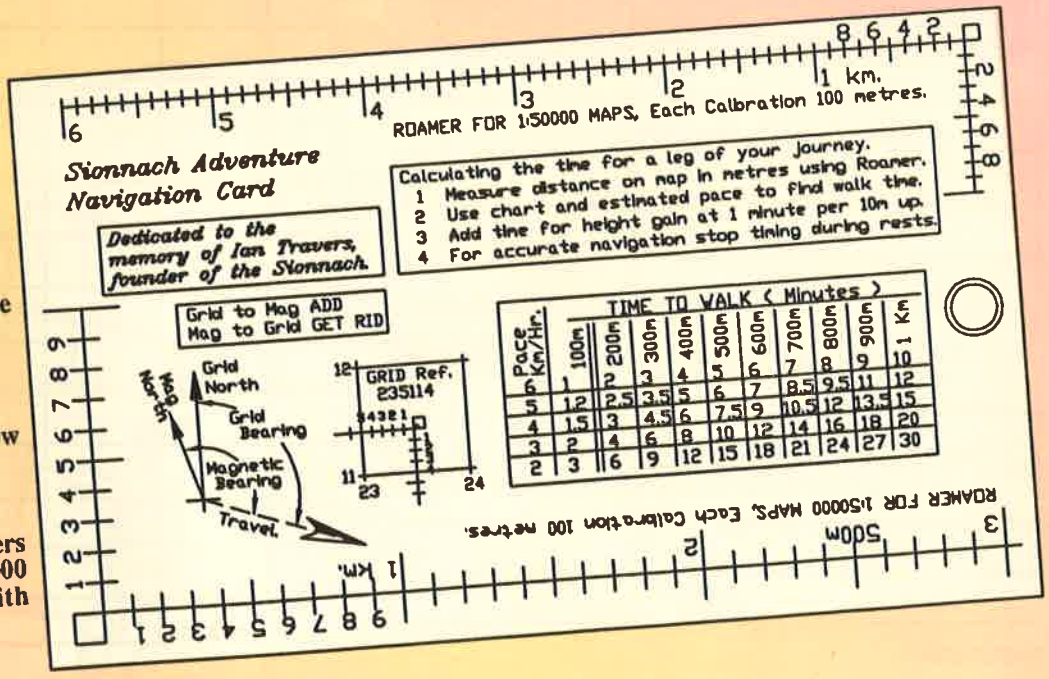
1:50,000 scale roamer

Navigation Cards

Navigation cards can be used:

- As a roamer for giving accurate grid references.
- To measure distance on the map.
- As a readi reckoner to calculate how long a distance will take depending on the pace you walk at.
- There is a reminder about how to give a grid reference and about converting bearings.

This navigation card has two roamers for use on the 1:50,000 and 1:25,000 scale maps the most popular with hillwalkers.



1:25,000 scale roamer

Photocopy Route Card

NAME	ADDRESS	PHONE	AGE

EVENT / LOCATION

DATES

MAPS

MAPSCALE

MAGNETIC VARIATION

DO YOU KNOW:
THE DANGERS / SIGNS OF EXPOSURE?
SURVIVAL PROCEDURE?
FIRST AID?
THE CAPABILITIES OF YOUR GROUP?
IF EVERYONE HAS THE RIGHT GEAR?
NAVIGATION TECHNIQUES?

ROUTE NOTES / ESCAPE ROUTES:

WEATHER FORECAST

WIND DIRECTION / SPEED

TEMPERATURE

OUTLOOK:

TIME OF SUNSET:

BREAK YOUR ROUTE DOWN INTO COVENIENT STAGES . NAME OR DESCRIBE THE LANDMARK AT THE BEGINNING & END OF EACH STAGE . . . . .

START

	GRID REFERENCE	BEARING / FEATURE 1.	PACE 2.	DISTANCE IN METRES 3.	HEIGHT CLIMBED IN METRES 4.	DISTANCE TIME 5.	HEIGHT TIME ALLOWANCE 6.	WALK TIME 7.
			TOTALS					

SUMMARY

ESTIMATED ROUTE TIME (With time added for rests about 10 minutes per hour)..**START TIME**...............................

ETA

LOUGH DAN ADVENTURE CENTRE

Roundwood, Co. Wicklow, Ireland.
Tel: 01 288137 Fax: 01 2818576

Expedition Courses at Lough Dan

The fundamental aim of the Lough Dan expedition course is to provide the participant with the environment and resources to explore personal potential areas of themselves which are normally not discovered in every day life.

Lough Dan expedition courses are demanding and challenging, but they are not beyond the reach of any one who tries. The courses are all bout developing self reliance, personal confidence and team work and you'll improve your navigation and backpacking skills while you're at it.

You don't need to be super fit to participate, you just need to be wiling to try. The more you are prepared to put into a Lough Dan course, the more you will gain.

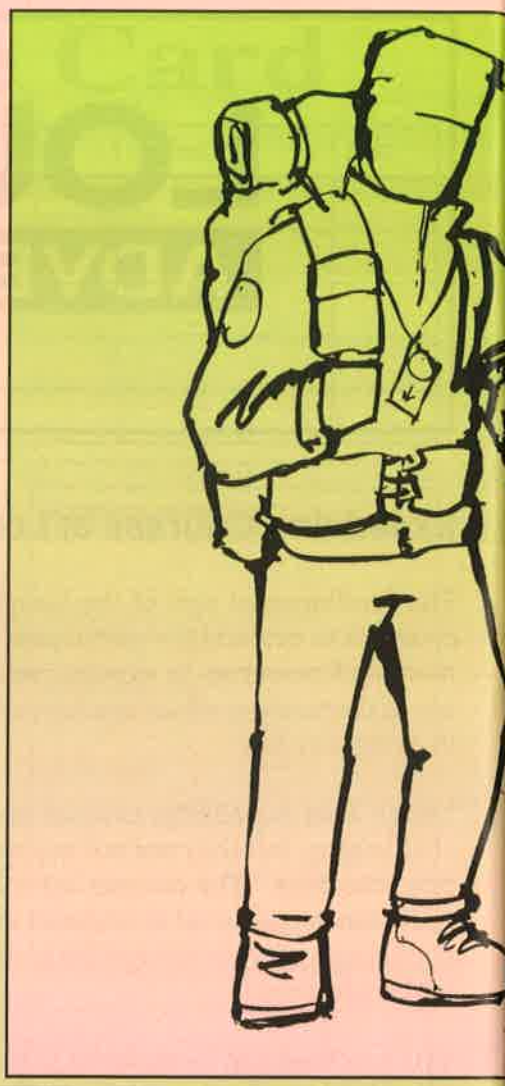
Although the course is demanding and challenging, it is designed to ensure success. This success encourages confidence- to explore - to grow - to tackle the new - to always seek new challenges in the difficult and the unknown.

Take the first step. The rewards will be immeasurable, and you may well find that the hardest thing about Lough Dan is making the decision to give it a go.

Our location in the heart of the Wicklow Mountains National Park makes Lough Dan the ideal venue for you.

For more information, contact:
LOUGH DAN ADVENTURE CENTRE,
Roundwood,Co. Wicklow, Ireland.
Tel: 01 2818137 Fax: 01 2818576

On Route



If you want to truly appreciate the wild countryside then you need to take your time and see what is around you. The times when you are doing nothing or just making a brew and soaking up the scenery are among the best of all.

Route card preparation and time spent at home looking at the map are important. Here in the comfort of your home you can do the bad weather calculations such as bearings, times and escape routes in an environment where you are less likely to make errors.

Coping with Terrain

The map will not tell you what the ground is going to be like under foot. It could be boggy, scree or thick heather. As long as you stick to well-used paths such as the way marked trail you should have few problems with terrain except for the occasional badly-eroded or very boggy section. Backpackers are less nimble than day walkers, due to their heavier loads, so skipping lightly around bog holes or over streams isn't so easy.

Heavy packs can make steep terrain much more difficult to cope with. Climbing with a full load can be tiring and needs to be taken slowly at a steady pace. ZIG ZAG up and down steep slopes . . . it makes your journey longer . . . but you will be far more comfortable and energy efficient.

Oddly perhaps, descending, particularly on steep ground, is even more demanding. If you feel unhappy or insecure during a descent, turn back and find a safer route. Before starting a descent, it is worth checking both map and terrain for potential hazards and try to pick out a safe way down.

Read Your Map

Always keep your map handy and orientated and never pass up a good opportunity to confirm your position.

Minimal Impact

Trails are easy to damage and destroy. Avoid harming the environment, stick to the trail even if it's muddy, rather than walking along the edges, as this only widens it. Paths on steep slopes are particularly vulnerable to erosion and it's important not to short-cut zig-zags. Many good paths have been destroyed by people doing this.

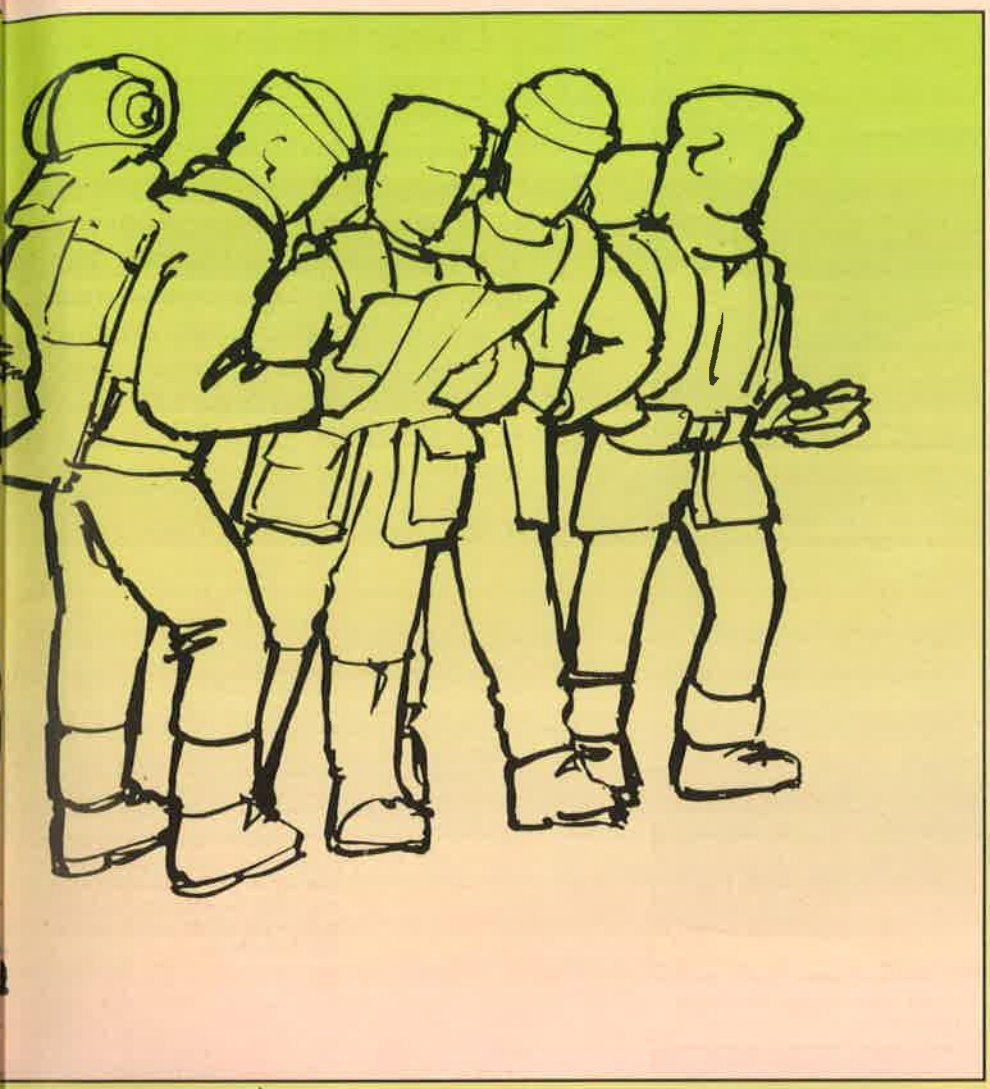
If you leave the trail behind to go cross country, aim to leave no sign of your passing. Don't mark your route with cairns. On soft terrain, spread out and walk apart so that you don't create the beginnings of a path which will soon become clearer as others follow.

Group Leadership

When leading a group ensure you walk at the pace of the slowest member and stay together. That way every one will benefit from rest stops as well as being involved in the group's navigation. Appoint someone experienced to bring up the rear who can ensure that no one is being left lagging behind and occassionally check that you are still on your bearing.The group splitting up and not staying together is one of the main reasons for mountain rescue callouts and fatalities in the Irish hills.

Tips

- An extendible ski pole or staff can help with balance particularly on steep downhill slopes.
- Keep your compass (hung around your neck) on a boot lace long enough so that you can use it with the map.



Timing

Naismith's Rule (Sionnach Variant)

If you know what speed you tend to walk at you can work out how long a leg of your route will take, as we can calculate both the horizontal distance and the vertical height climbed from the map. This is a helpful navigational technique over longer distances where counting paces could be difficult if not anti-social. It is also used when route planning.

The speed you walk at will depend on

- the fitness of the group
- the load carried
- conditions underfoot (heather, bog, snow)
- weather conditions ((strong winds behind or against you)

Experience is your only guide to estimating the speed you are walking at.

Here is a guide

2km per hour rough ground / heavy pack	1km = 30 mins (100m = 3 mins)
3km per hour average pace with pack	1km = 20 mins (100m = 2 mins)
4km per hour good pace / good ground	1km = 15 mins (100m = 1.5 mins)
5km per hour fast / day pack	1km = 12 mins (100m = 1.2 mins)
For height climbed	allow 1 minute for every 10 metres climbed On the 1:50,000 OS maps each contour interval is 10 m

River crossing

Rivers and streams can be dangerous. The advice here is simple: if the water is fast-flowing and much more than shin deep, don't cross. Moving water is very powerful and a soaking can easily lead to hypothermia. When route planning remember that rivers can go into spate after heavy rain particularly in mountains where there is a lot of run-off. So aim to avoid them when route planning. If you do come across a stream in spate, head downhill to a bridge or upstream to where the river divides and the flow of water is less.

Pacing

If you know how many double paces you take per 100m this can be a very useful tool in navigation over short distances and where the incline is not so steep that you have to zig zag. On average it will be about 130 paces or 65 double paces per 100m but everyone 's pace will vary a little.

Counting double paces means that only half the amount of counting is necessary. If for example my route is 300m, this will mean walking 65 double paces three times. Avoid multiplying this out as mistakes occur in mental aritmetic when you're tired, wet and cold.

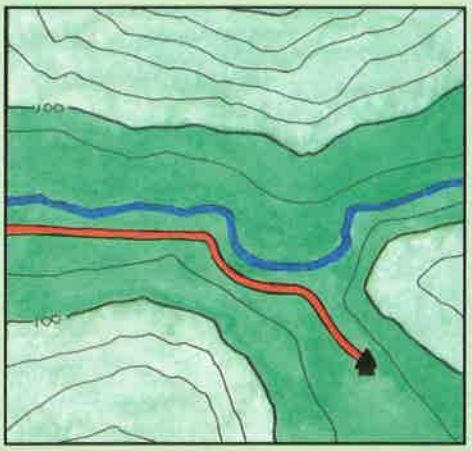
You will need some sort of counters such as pebbles, twigs etc or you can get a "tachometer" attachment for your Silva compass.

You can work out your pacing by marking out 100 metres using a surveyor's tape and pacing it out. Do this in open country as well as up and down hill and on the level as there will be a slight difference.You will then be able to adapt your pacing for different types of terrain and gradient.

When navigating use a combination of techniques depending on the terrain, the weather etc.

Attack-Points

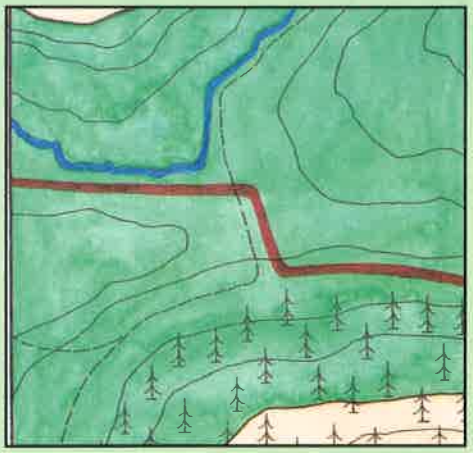
Attack-points are used when navigating to an isolated spot. The attack-point is the nearest or most obvious "dead fix' point which can be reached comparatively easily. Once at the attack-point orientate the map and work out the exact location of your target destination using fine navigation i.e, timing, pacing and compass bearings.



The river is used as a hand rail until the distinctive bend is reached (the attack point) and from there use fine navigation to get to the isolated hut.

Handrails

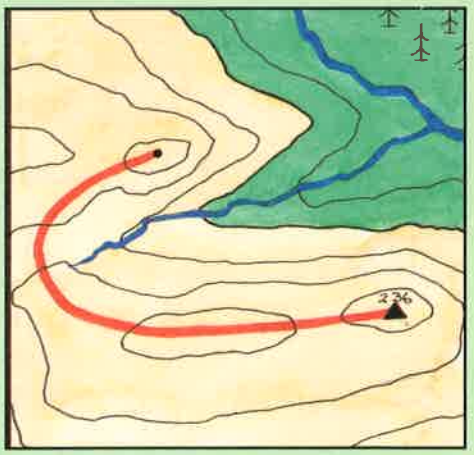
Any linear feature such as a stream, path, earth bank or forest boundary can be used as a hand rail to guide you to your destination. Although this may sometimes be longer it is more reliable way of getting to a target as it reduces the amount of open cround that has to be navigated.



Here the route follows a stream, a path and then skirts along the forest edge.

Contouring

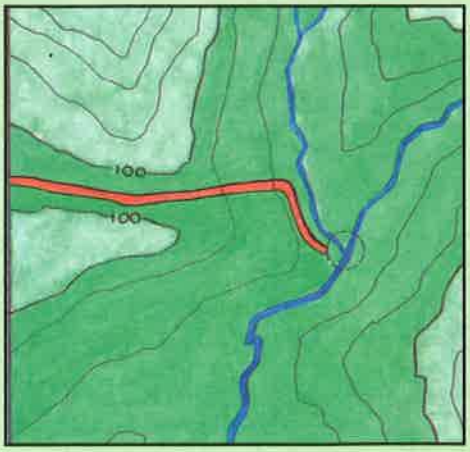
Contouring is another name for keeping height by walking along a contour. This way you can avoid needlessly climbing height or losing any that you have already gained on route. Cutting across a 'valley' may seem like a short cut, but you lose height and then you end up having to climb a steep slope to regain it. From a distance a steep slope can look deceivingly easy.



It may take longer but it is more energy efficient to contour. But in bad weather it is difficult to stay on course as you can not follow a bearing.

Aiming-Off

This is a technique used to navigate to a linear feature, such as a stream junction, when you cannot see it. This is done by deliberately aiming off to one side so you know which way to turn to find it when the river is reached. Circumstances will dictate whether to aim to the left or right, eg. keeping height.



Here we have aimed off to the left keeping height. When the river is reached we know we have to go down stream (turn right) to find the junction.

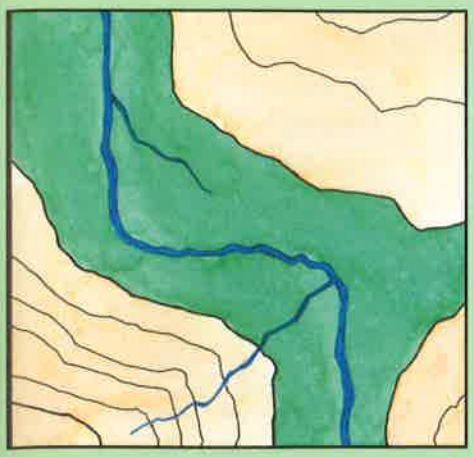
Linear Features

It is sometimes possible to locate your position along a linear feature such as a stream by its direction. This can be done by either setting the map or by taking a bearing along a section of it and comparing this with the map. This is also of use to confirm you are at the correct river junction. Take a bearing of each branch and compare these with the river junctions on the map.

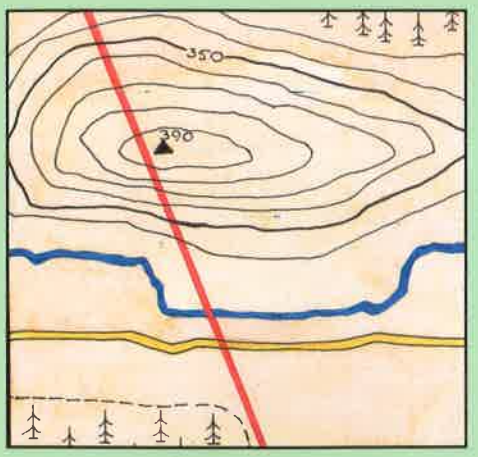
6 To head for your pick up point at the Liffey Head bridge O138136 aim off to the south hitting the road near the wide bend and then turn right to the north-east to reach the bridge.

1 The car park at O168 079 just east of lough Tay is a convenient drop-off point for the group. Just be sure you end up in the right car park as there are several along this stretch of road. Start your navigation while you are still in the car.

Mountain Navigation



Only one section of the river flows west (270°). Both river junctions would look every similar on the ground but one tributary flows NE while at the other junction it flows to the NW.



Forest edge, road, stream, steep uphill slope to the summit. Once you start to lose height you know that you have gone too far and have overshot your target.

Tickoff features

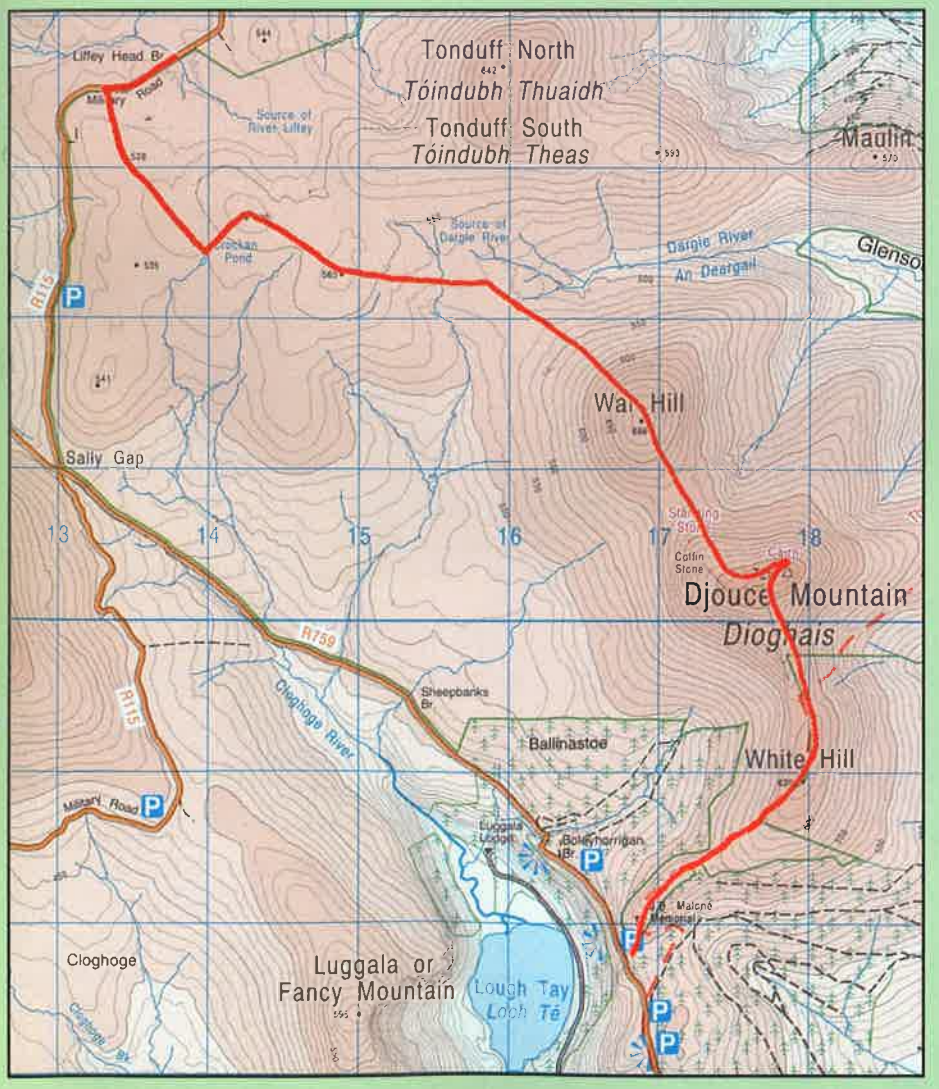
Practise memorising short legs of your route by building up a mental picture of the features you should encounter: col, forest edge etc. If these fail to appear, then check you're going in the right direction. In poor visibility use every opportunity to reconfirm your position.

Overshoot features

From the map, you should be able to see what happens should you overshoot your intended target, ie. a change in slope, a stream etc.

***5** To get to Crockan Pond O139123 your best bet would be to continue to the broad col to the north-west. Then break the leg up into shorter stretches i.e. the spot heights 536 and 570. Use 570 as an attack point from which to reach the pond. Looking at the contours you will note that the spacings are wide meaning that the terrain is not very defined. Even the spot heights are broad and only 15 metres higher than the surrounding landscape. In poor visability use bearings & timings. The roads on the west and south act as an escape route if you get lost.*

***4** Walking directly to War Hill would envolve a slight lose of height so follow the shape of the land via the col. In poor visability you could walk on a direct bearing or two bearings on a dog-leg pacing to the coll from Djouce.*



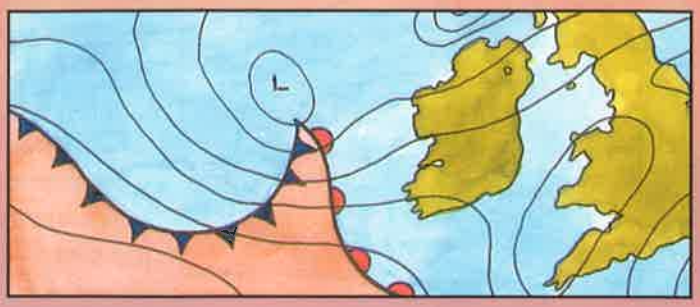
Based on the Ordnance Survey by permission of the Government (Permit No. 6194)

***2** The large fire break between the two forests acts as a good hand rail feature as you head up the spur towards White Hill. Look at the map and remember the tick off features along your route to Djouce Mountain, spot height, small col, Wicklow Way path truns north-east, a wall or earth bank just as the gradient gets steeper.*

***3** Use the wall or earth bank shown on the map as a hand rail feature. This will get you quite close to the summit of Djouce. If you start to loose height you've gone too so far keep this in mind as an overshoot feature.*

WEATHER

Ireland lies on the boundary between warm moist tropical air in the south and cold dry polar air to the north. Where these two air masses meet we get a 'front'.



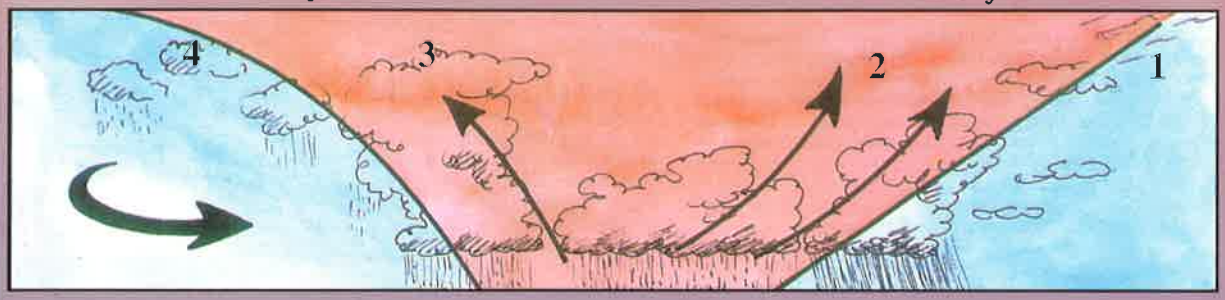
A front is not a straight line but more like a wave moving north-East towards Ireland.

These frontal systems are associated with a drop in pressure (that is why they are often called a "low" or a "depression") as well as wet and windy weather conditions and bring characteristic weather changes.

The force of the wind is shown by the isobars on weather maps; the closer they are windier it will be. Fronts are not vertical either but angled due to the friction caused between the moving air mass and the ground.

OVERALL MOVEMENT OF THE DEPRESSION ▶ ▶

Cold front *Warm front*



4 As the cold air mass advances (shown by triangles on weather maps) it moves under the warm air as it pushes it along. Again this causes cooling and rain (cumulus clouds). The boundary between the two air masses is more vertical so the cold front passes more quickly with heavy showers and possibly hail. The showers become fewer giving way to light clear but cooler weather.

Temperature falls
Cumulus clouds
Blustery showers
Pressure rises

3 In the warm sector we often have mild humid conditions with drizzle, low stratus cloud and poor visibility.

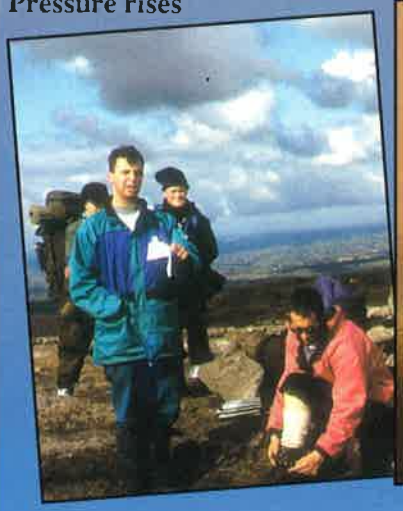
Temperature increases
Overcast
Drizzle
Low pressure

2 As the front gets nearer at ground level the cloud gets lower (status type clouds),more dense and the rain gets heavier.

Skies overcast
Stratus clouds
Continuous rain
Pressure continues to fall

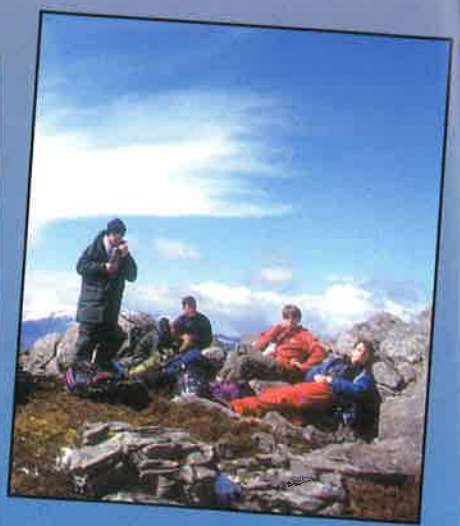
1 In a warm front (shown by semicircles on a weather map) advancing warm air slides up over the cold mass. As it rises it cools down and we get the first sign of rain with the development of high cirrus clouds.

High cirrus clouds
Dry
Pressure falling



Cumulus clouds and cooler showery weather typical of the cold front.

This is what stratus clouds look like when your in the thick of them up in the mountains.



Notice the high cirrus clouds, the first signs of the approaching dpression. In the distance you can see the stratus clouds as the warm front approaches.

Localised Weather

While a lot of information can be got from weather maps and forecasts, this often relates to situations at sea level and this can be quite different to what actually happens in the mountains. Mountain areas create their own localised weather patterns; As the wind moves up a mountain side it cools down. Known as the lapse rate, this can be as much as -1.5°for every 100 metres of altitude. Not only will the temperature drop, but as it cools the water vapour in the air will turn to rain. In fact it rains 3 times as much in mountain areas. If the mountain is high this precipitation may be in the form of hail, sleet or snow. Also, the wind in mountain areas is effected by the topography and can be funnelled either over or around obstacles. This can be very noticeable in a saddle or col or on a ridge.

Tips

No matter how good the weather is when your setting out, always assume poorer weather in the hills by having the proper wet weather gear and group equipment.

Day Hike Gear

Personal

Waterproof jacket & leggings
Extra warm clothing
Hat & gloves
Hiking boots
Lunch and flask
Bivvy bag
Emergency rations
Day Pack

Group Gear

Safety rope
Map & compass
First aid kit
Torch and whistle
Sleeping bag (in winter)
Group shelter

Wind Chill

The movement of cold air greatly increases the cooling effect on the body. This phenomenon is known as 'wind chill'. Even small changes in wind speed can have a profound effect on the degree of cooling. (see chart)

To prevent heat loss the priorities are to get out of the wind, stay dry and cover as much of the body as possible (hat, gloves etc.). Still air is a good insulator against heat loss so air trapping garments and a layered approach to clothing should be used. Wet clothing has drastically reduced insulation value compared when dry, so wear a wind and waterproof jacket and leggings.

Tips

When you stop for lunch, pick a spot out of the wind such as on the lee side of the mountain or behind a crag and put on a fleece or your wind proof jacket

Beaufort wind scale

Force	Effect	Speed Km/hr
0	**Calm**, Smoke rises vertically	0
1	**Light air**;Smoke moves, but not a wind vane	3
2	**Light breeze**; Felt on face, leaves rustle,	9
3	**Gentle breeze**; Leaves and twigs move, flag extended	17
4	**Moderate breeze**; Small brances move, paper lifted	24
5	**Fresh breeze**; Small trees begin to sway	35
6	**Strong breeze**; Large branches move; umbrellas difficult to use	44
7	**Near gale**; Whole trees move, difficult to walk	56
8	**Gale**; Twigs break off; very difficult to walk	69
9	**Strong gale**; Chimneys and slates blown off	82
10	**Storm**, Major structural damage	

Wind force

Temp C	0 Calm	1 Light air	2 Light Breeze	3 Gentle breeze	4 Moderate breeze	5 Fresh breeze	6 Strong breeze
15	15	11	9	7	2	0	-1
10	10	7	3	0	-1	-2	-3
5	5	3	-3	-6	-8	-10	-11
0	0	-3	-9	-12	-16	-17	-18
-5	-5	-10	-16	-20	-23	-25	-27
-10	-10	-15	-22	-27	-30	-32	-34

This chart shows the effects of wind chill. If for example the air temperature is 5°C and there is a light breeze the wind chill equivalent will be minus 3°C. In Mountain areas temperatures are often lower than this and wind speed stronger which can make it feel extremely cold when the wind chill factor is taken into account.

We are homeotherms: that is, our bodies try to keep a constant temperature of 37 degrees C. If we get too hot the skin becomes flushed and we start to sweat, which cause heat loss and cooling respectively. If we get too cold the body reduces circulation to the extremities such as the fingers, arms, toes, feet and ears

in an effort to ensure our vital organs are kept at 37 degrees. If our core temperature drops much below this we are into hypothermia. Hypothermia (exposure) is caused by a combination of exhaustion and severe chilling of the body surface, resulting in the lowering of the body's core temperature.

Causes

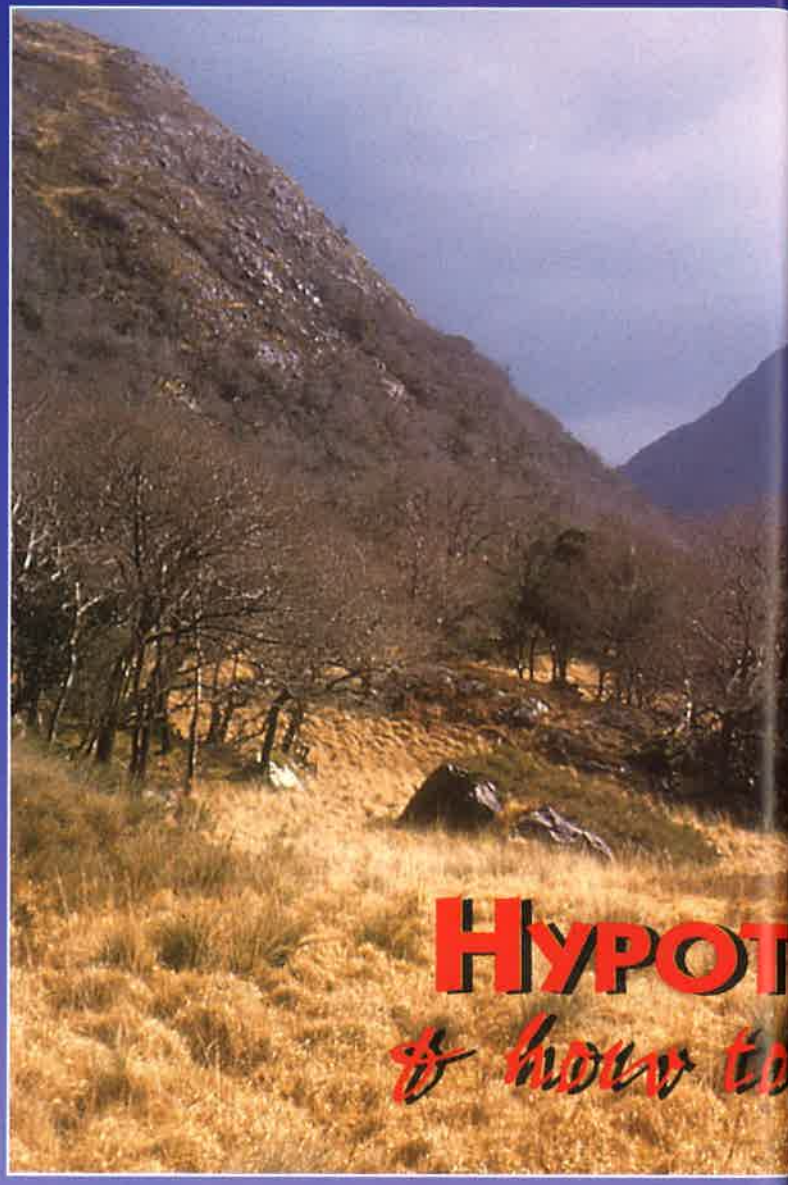
Wind chill. At any temperature the cooling effect of the wind on the body increases with wind speed. It is therefore likely to feel much colder in the mountains where higher wind speeds are more common and temperatures are lower than the weather forecast predicted and which is based on conditions at sea level. Keep this in mind when planning for even such small things as selecting lunch stops etc.

Morale. Poor and rough terrain, soft snow, deep heather, heavy packs and walking at a difficult pace can all lead to a drop in morale and a feeling of hopelessness. The leadership of the group is vital, first of all in the planning and then on route to ensure a steady pace that is comfortable for everyone is established or that the route is changed or shortened if needs be.

Wet cold. Wet clothing has greatly reduced insulation properties in certain fabrics. For example, in cotton this can be reduced to as much as one tenth. Avoid getting wet by sensible use of your wet weather gear, both jacket and over trousers.

Inadequate clothing. You need to wear layers of clothes that trap air which then acts as an insulator from the cold. A layering approach to clothing is flexible and allows you to regulate your temperature by putting on or taking off a garment and by "venting" the opening of zips and cuffs. Next to your skin wear a garment that "wicks" perspiration away. You can also regulate your temperature by pacing yourself taking it nice and easy instead of building up a sweat.

Fitness. Overestimating the fitness of the group and underestimating the time are common mistakes made by hill walkers. These can be overcome by careful planning and by a series of build-up hikes leading up to an expedition so that you know your & the groups capabilities.



Exhaustion

This is caused by attempting too much or by not eating enough to replace used energy. Plan your route to suit the abilities of the group. Make a route card to calculate time and distance, making allowances for the weather, time of year, terrain, the time of sun- set and weight of packs carried. You need about twice your normal "fuel" intake when hill walking so ensure a good breakfast and adequate meals throughout the weekend. Don't just crash out in your tent at the end of a hard day, cook a meal. Snack food is an important element in replacing used energy. This can be chocolate bars or GORP, a home made mix of Good Old Raisins and Peanuts. Don't forget to drink whenever the opportunity arises to replace liquid lost through perspiration.

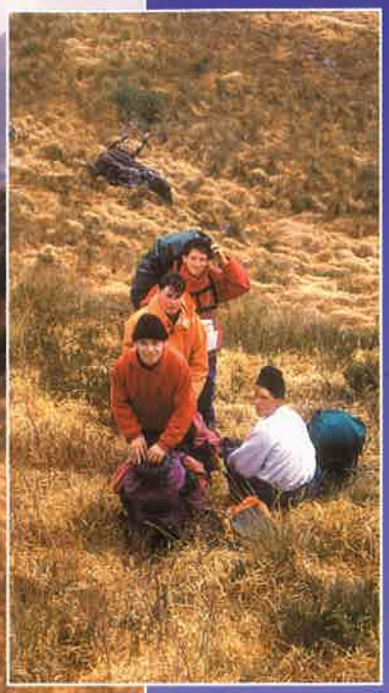
Injury or illness

Often hypothermia results when the group is unexpectedley delayed. This can occur with even a minor injury. Next time you are out imagine how long it would take for help to arrive if one of your group were injured .If an accident does occur make sure you keep warm, provide shelter using your tent, "Kisu" group shelter or bivvy bags and make a hot brew.

Treatment

- Stop and provide shelter from the elements which are causing the heat loss. Remember exhaustion is a major factor in causing hypothermia.

- Pitch a tent if you have one, otherwise use your bivvy bag. Get into a sleeping bag and huddle together to share body warmth, put on extra warm clothing, hat, gloves etc.



- Insulate the victim from the cold ground using a foam mat, rucksack etc .

- Replenish lost energy by giving sugary drinks and your survival rations, which should contain things high in carbohydrates such as chocolate, boiled sweets, Gluco tabs, GORP.

Do not give alcohol, this only causes more heat loss, as does rubbing the patient to restore circulation. Make sure the rest of the party are not hanging about as they too may develop hypothermia.

NB If Someone is suffering from advanced hypothermia, continuing to walk (even if you change your route) could cause the casualty to use up more of their energy and lose more body heat. This will make the situation more serious.

Treatment should aim to eliminate the causes of heat loss and prevent futher heat loss.

- **STOP**
- **PROVIDE SHELTER & WARMTH**
- **REPLENISH ENERGY**

Signs and Symptoms of hypothermia

There are many signs which may indicate that one of your party is beginning to suffer from hypothermia:

- complaints of cold, tiredness, cramp or unusual or erratic behaviour
- mental and physical drowsiness
- slurring of the speech
- irrational or violent behaviour (Switch Off)
- problems focusing, stumbling or uncoordinated movements
- collapse or coma; at this stage the victim is in a very serious condition

The best course of action is prevention

Plan a route to suit the age and ability of the group.

Change your plans if you get a poor weather forecast or even on route should the going be tough ie strong wind, thick heather, soft snow.

Carry the correct personal and group equipment.

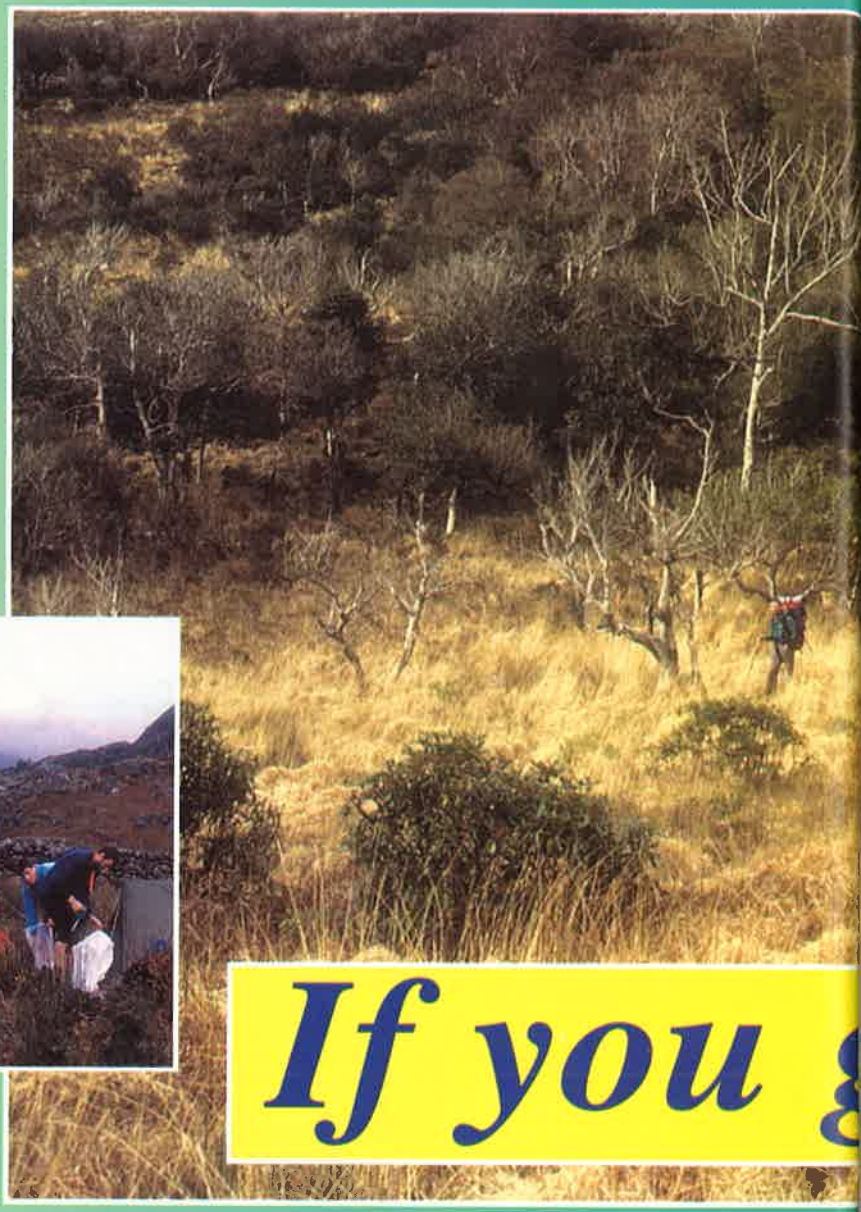
Avoid getting cold and wet by using the layered approach to clothing.

Be aware of the effects of wind-chill.

Eat well and replace lost fluid by drinking regularly.

When sending for help

- Check your position.
- Send at least two people for help if you can.
- From your route card which you prepared at home, you should have identified escape routes to use in such a situation.
- Before setting off, write out your grid reference and some brief details of the accident, the casualty's name, injuries, the time of the accident and treatment given. It's a good idea to have a record card for this purpose as part of your first aid kit.
- Do not be reluctant to call out the **mountain rescue services (via the police, by dialling 999).**
- While waiting for the rescue team do what first aid you can to make the casualty warm and comfortable, guard against hypothermia and futher deterioration.
- Make sure everyone else is warm and secure. Keep morale high by cracking jokes, singing etc and by involving everyone.



Sending for help

It is usually a combination of factors that cause an emergency, i.e. bad weather and an injury. Don't send for help unless you are sure you need it. As a general rule, the party should always stay together.

Planning a route beforehand can help by ensuring you don't tackle a route beyond the ability of the group, identifying escape routes and potential obstacles such as rivers and ensuring that the correct equipment is carried. A copy of your route card should be left with someone reliable who can contact the mountain rescue services should you fail to turn up a long time after your estimated time of arrival (ETA).

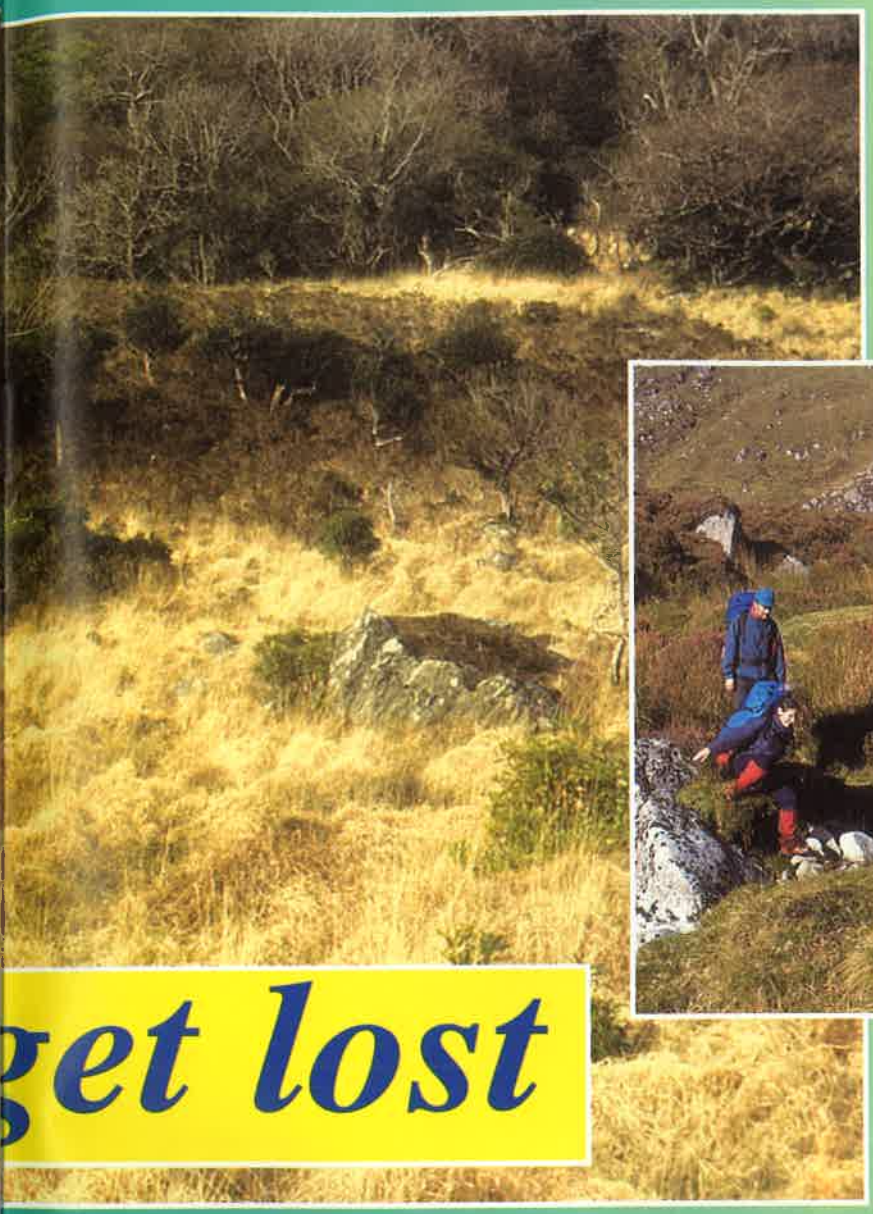
TIPS

- Many hillwalkers include a KISU Group Shelter as part of their group equipment. This is like a large fly sheet under which the group can huddle to keep warm.
- Consider wether you should bring a mobile phone. Keep it dry to ensure dampness does not short the batteries. You may need to change your location to higher ground inorder to make contact in mountain areas.
- Some people bring a small flare as part of their group equipment.

The Emergency Signal

If you need help you can give the emergency signal on your whistle and or torch. 6 long blasts or flashes then wait a minute and repeat until help arrives.

If you are sheltering from the cold behind a boulder or earth bank leave some marker that is visible.



get lost

First Aid Kits

Should be kept small, yet still have the necessary items, but even these are of little use unless you know some thing about basic first aid. Suggested content for a personal first aid kit:

Assorted plasters (12)
Triangular bandages (2)
Safety pins (2)
Sterile dressing (medium)
Sterile dressing (large)
Sterile wipes (8)
Scissors and tweezers
Steri strip sutures
Crepe bandage
Pencil & accident report card
Pair of disposable latex gloves

Optional extras
Lip salve
Sun block
Insect repellant

If you get lost

Sit down, keep calm. Carefully work out from the map your approximate position (how far are you from your last known position? Survey the features around you and try to recollect those you passed etc). Consider whether it is safe to continue or not. This will depend on the terrain, (cliffs, crags) the weather, time of sunset, the state of the party.

If you decide to continue, decide on which direction you ought to go ie. to the nearest farmhouse, to the nearest road or to retrace your route. You should have noted down a possible escape route when planning your route card. This is the time to use it and to trust your compass.

If it is not safe to move and you are going to stick it out for the night, keep a grip, look around for some shelter from the wind, ie. a wall, earth bank or a boulder and make yourself as comfortable as possible using your bivvy bags, spare clothing,and emergency rations. If you are backpacking then you should be carrying in your pack everything for an over night stay . Talk to your party. Keep them informed and

Accident report card

Location:

grid reference:

Time of Accident:

Name of Injured:

Contact & tel:

Nature of injuries:

Treatment given:

Where to go

The Waymarked Ways

Way-marked trails

Many people are introduced to hill walking and backpacking through the way-marked trails. These long distance walks, of which there are over 20 in Ireland, are ideal as they are sign posted and are well resourced with guide books and maps to help you plan your trip. The routes mainly follow old disused roads, grassy bohereens and forest tracks where the navigation isn't so demanding.

Few of the routes involve significant climbs, even though there is plenty of that nearby if you want. All the routes are marked at frequent intervals with a signpost or sturdy posts bearing a now familiar yellow arrow and figure. Further afield there is plenty to chose from in Scotland and Wales as well as on the continent.

Training.

This booklet is only an introduction to hillwalking and backpacking. Many of the skills outlined are practical and can best be learnt in an outdoor setting. The Irish Mountain Training Board (BOS) runs mountain skills courses which are designed to help casual hill walkers look after themselves in the Irish mountains.

There are no entry requirements for the courses although a certain amount of hill walking experience would be an advantage. An initial weekend of training (MS1) can be followed by a supplementary weekend (MS2). There is then the option of having these skills assessed (MSA).

Alternatively you can cover all the training together on a mountain skills training week. For those who want to continue their training they can then go on to the Mountain Leadership scheme. For more information on approved centres and organisations contact AFAS, the Association for Adventure Sports.

Suggested reading list

Mountain Caft and Leadership Eric Langmuir

Mountain Hazards Kevin Walker

Mountain Navigation Peter Cliff

What's in a name?

The Irish place names on our maps preserve a richness in description of the landscape. The first surveyors recorded the names as they heard them, often misspeling the original irish. But you can still interpret a lot and many features appear in Irish place names. Here are some of the most common. (The anglicised version in brackets)

Abha (owen) - river
Achadh (augha) - field or open space
aill - cliff
alt - a steep side of a valley
aluinn - beautiful
ard - high
ath (anna) - a ford
baille (bally, Bal) - a town
balla - a wall
barna - a gap
beag (beg) smallbri (bray) - a hill
breac (brack) - speckled
buiaile (booley) - a place where cattle were kept
bun - end, mouth of
cam (coum) - crooked
caol (keel) - narrow
caher - a circular stone fort
cappa - a plot of land for tillage
carn - a cairn
carrig (carrick) - a rock
ceann (kan, ken, kin) - a head
ceim (keem) - a pass
cill (kill, kells) - a church
clar (clare) - a level surface or plank bridge
cloch (clough) - a stone
cnoc (knock) - a hill
doire (derry,dare) - oak tree
dearg (derg) - red
druim (drum, drom) - a ridge or spur
dubh (doo, duff) - black
eas (as, ess) - waterfall
fiodh (fee, feth) -wood
fionn (finn, fin) - fair
geal (gal) - bright
gearr (gar) short
glas - green
glen - valley
gort - field
inis (innish, ennis, inch) - an island
iochtar (eighter, etra) - lower
lag (lug) - a hollow
leaba (laba) - a bed or grave
leac (leck) - flag stones
liath (lee, lei) - grey
lios (lis) - a circular earthen fort
lough - lake
magh (moy) - a plain
mam (maum) - a mountain pass
moal (mul, mal) - bare
moin (mon, mona) - a bog
mull - summit
mallagh - a great summit
rath - a circular fort
rinn (rin, ring) - point or penninsula
ruadh (roe) - red
ross - penninsula
talamh (tully) - land
tir (ter) - territory
tirim (hirm) - dry
tobar (tober) - a well
tra - a sandy beach
tuar (toor) - a tower
turlough - a seaonal lake

The Sionnach Adventure

is an opportunity to back pack in some of Ireland's mountains & Islands.

The Sionnachs also offer you an oppurtunity to develop your navigation, lightweight backpacking, personal development and teamwork skills in wild countryside, and most of all to have fun.

Run during September and October, a typical adventure runs from a Friday night to a Sunday afternoon. Each team is required to be self sufficient in food, cooking equipment and other hill walking gear. The routes are run through remote areas and require the patrols to be well prepared. The Sionnachs are staffed by experienced hillwalkers who plan the route and run activity based checkpoints along the route, however, the emphasis is on the patrol learning through doing and being reasonably independent. The Sionnach adventure is a non competative event.

The Sionnach Adventures are open to Scouts over the age of 14 with:

- basic experience in hill walking.
- all the required equipment.
- who are reasonably physically fit.
- who can persuade a Leader to join them!

The cost of the Sionnach Adventure includes the information booklet and administration costs of the adventure but not transport to and from the event. Each Sionnach Adventure is limited to 25 patrols (a patrol being four Scouts and one adult Leader) so it is necessary to book well in advance to avoid disappointment.

Information appears in Scouting Ireland Magazine or contact your Regional Office or the Sionnach Team c/o Scouting Ireland, National Office.

P.E.A.K.

P.E.A.K. - *Patrol Expedition and Camp,* is a week long personal development course for scouts over 14 years of age. Run during Easter in County Kerry at Cappanalea Outdoor Education Centre, the programme offers participants a chance to take part in a whole range of outdoor activities as well as an opportunity to improve on their backpacking skills such as navigation, route finding, map reading and light weight camping. The week culminates in a two day expedition route which the scouts complete in patrols unaccompanied by an adult. It is demanding physically and in the skills needed. Here they have to rely not only on their technical skills but also on team work, decision making and problem solving skills. **P.E.A.K.** participation is limited to 36 scouts male and female. While the cost may seem high it is of exceptional value when compared with programmes of similar duration and has been proven to be a good investment by a troop in a scout that shows leadership potential.

Information appears in Scouting Ireland Magazine or contact the PEAK Co-ordinator, c/o National Office.

The Mountain Pursuit Challenge

A similar event to the Sionnach - ***The Mountain Pursuit Challenge*** is run by the Catholic Boy Scouts of Ireland. Each year four regional events are organised. For more information on the MPC contact CBSI National Office.

THE CHIEF SCOUTS' AWARD

This is an award for scouts over 14 years of age where they design their own personal challenges in several areas.

Overnight expedition.

With several friends plan and organise an expedition on foot or by bicycle, camping out at least two nights. Your expedition should cover at least 30km on foot or 100 km by bike. The expedition should be planned with the help of your leader, taking all the necessary safety precautions.

Day activity.

Plan and lead a day activity such as a hike, orienteering event etc. for the other scouts in your troop. In the planning and implementation of the event ensure all necessary safety precautions are taken into account.

The environment.

Undertake an activity, survey or project relevant to your community or an area which your troop uses regularly.

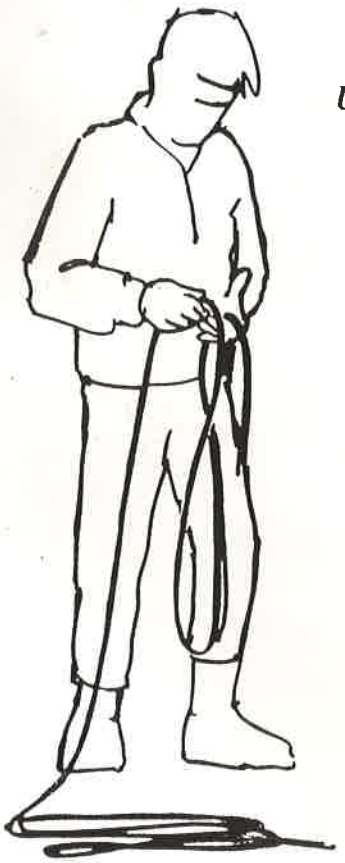
Personal challenge.

Set your self a personal challenge not related to your scouting activities. This could be learning a new skill, developing a hobby, finding out about a career option etc.

Qualification.

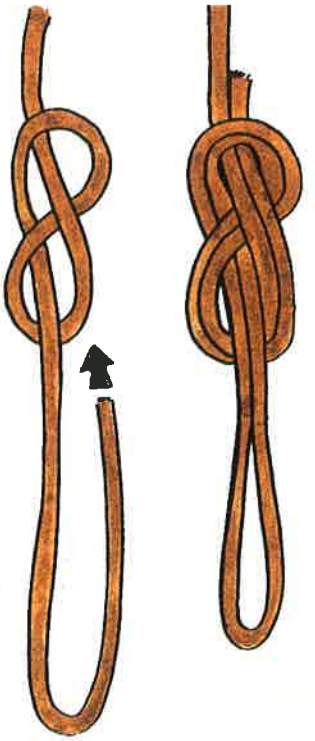
Achieve a recognised qualification such as a basic First Aid Cert, go on a Rescue Emergency Care course, Mountain skills course or intermediate RLSS life saving.

When you have decided on your challenges in each of these catagories, you need to register them with the Chief Scouts Award and then you have one year to complete them. You must keep a log book of your Award activities and submit it for assessment . Detailed information about the Chief Scout's Award can be found on a separate leaflet or from Scouting Ireland's National or Regional offices.



Ropework

Useful knots in mountaineering to make a secure loop.



Bowline

Be prepared

Be prepared

Be prepared

Be prepared

Be prepared

Be prepared

Be prepared

Be prepared