CHAPTER FOUR

PART 1

THE PLANNING

It is my hope that the 'heart' of this book will lie in this chapter, for using your sea kayak for 'expeditioning', is what it is all about.

Learning the art and skills of paddling your kayak safely in most conditions, understanding the limitations and how to enjoy the paddling experience leads inevitably to embarking on serious expeditions.

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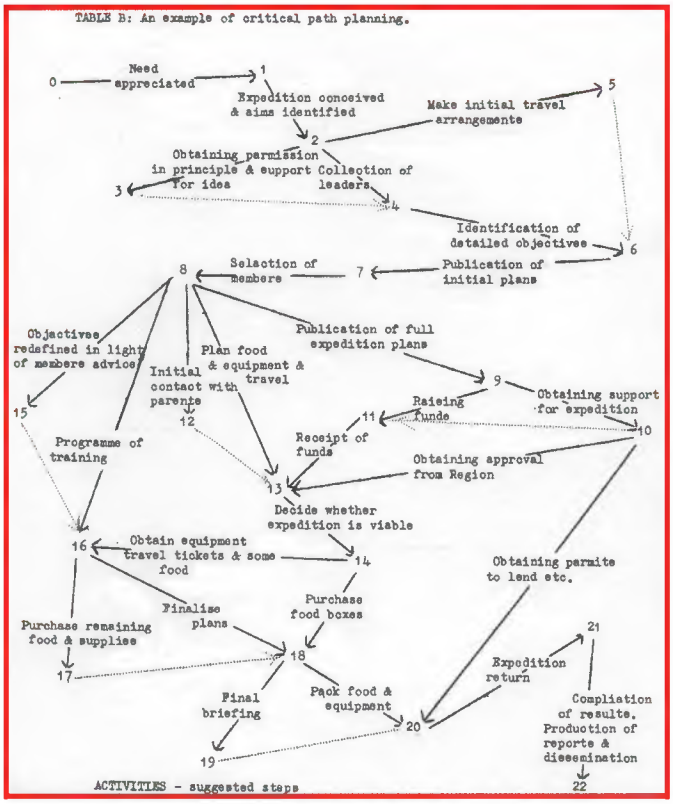
CRITICAL PATH PLANNING

Sometimes called Critical Path Analysis. It is a fancy way of describing something we all do all the time, We get. an idea to do something and off we go and do it. We may for example, decide to go shopping. Disregarding the occasional amble to 'wander round the shops', a serious shopping trip demands that we make the best use of the exercise. How will you get to the shops? How many shops must you use? How long will it take? Can you afford it? All these questions require an answer and in formulating these answers you are planning ahead or describing a "critical path'.



The more complicated the idea, then the more complex the plan. A visit to the comer shop is one thing, a visit down town to the big department stores is another. You will have to consider transport. If you are to use the car, can you park; if the bus, can you carry your purchases home. A visit to the bank may be necessary to obtain some funds and to discover what you can afford. This example of a shopping trip to demonstrate the need to plan, can be replaced by a thousand others. Clearly the example that interests us here is that of a sea kayak expedition.

THE IDEA

Every expedition starts with a vision that is sparked off by inspiration from a myriad of sources that has made a particular impression on you. I clearly remember the inspiration I got from watching a BBC documentary, 'The Flight of the Condor', filmed along the Andes of South America and I soon set to, to kayak the southern end of Lake Titicaca in Peru.

Then there was a conversation I became involved in when various possible expeditions were being discussed. One, a crossing of the Bering Straits between Alaska and Russia, inspired me to study its feasibility. It proved to be a difficult expedition to plan because of the political situation at the time (it was 1981 - not that it is any better now with the war raging between the Russians and Chechnia) and instead we paddled around an Island in the Bering Sea.

Sources of inspiration are all around us and we could become swamped with ideas if it were not for the many limiting factors we need to take into consideration which ensures we keep our feet on the ground. I subscribe to several glossy geographical magazines and I watch all the natural science documentaries on the television that I can and I drool over the expedition I would love to take. Then reality brings me back to earth and I realise that time, money and opportunity means I must continue to only drool.

But occasionally, an idea for an expedition takes root and starts to grow. I work out that the limiting factors can be overcome with the will and determination and I start to do some serious planning. Often my plan is not very ambitious. I plan with a few friends to spend some time 'expeditioning' along the coast not too far from home.

On the other hand I do like to have a fairly ambitious expedition to look forward to. In fact I find the planning and organising to be fun, with the juicy carrot hanging at the end of it. Some seem able to conceive of what I would describe as an ambitious expedition and set off and undertake it with the very minimum of planning.

Dr Mike Jones (of 'Canoeing Down Everest' fame) is a good example. Apparently he would discuss his idea with friends in a pub, jot a few notes on a beer mat and go off and see it through.

In my view, people like Mike are rare and most need to think their project through and put it together over time.

Some very fundamental considerations occur to me:-

(i) how much time do you need to plan? For a serious expedition involving many others for whom I have a leadership responsibility, I may take up to two years from concept to conception.

(ii) how much will it cost per head? Can the team afford it or will you be looking for sponsorship?

(iii) how long will you be in the field?

(iv) What will be your travelling arrangements? Can you actually get your team and all your gear to the area?

(v) Why do you want to undertake any particular expedition? You certainly need to declare your aims and objectives to your team and sponsors and they must be uncomplicated, truthful and have meaning.

There is a lot to be said for putting together fairly easily attainable trips so that you gain experience. The advantages are obvious in that access is closer to home and the cost is less, you need not be away from home for long and the basic logistics are readily possible. The confidence from achieving the simple is very necessary in order to achieve the more difficult.

FUNDING

It is said that you should work out a reasonable estimate of the cost of your expedition, taking into account the expense of gear, travel, food, insurance and miscellaneous expenses AND THEN ADD 25%. Unfortunately, most will work out how cheaply they can manage, imagining how it will be possible to cut costs as they go. I can assure you that this is a grave mistake and will almost certainly lead you to altercation with your backers or indeed with your own bank manager.

There are several ways of raising the cash. The obvious one is to save up and pay for it yourself. OK if the expedition is locally based and not beyond your pocket. The more ambitious your plans, the more expensive they are going to be and you will have to raise funds.

I have often taken young people off on fairly exotic expeditions as organised by such as Raleigh International and BSES Expeditions (British Schools Expeditions Society) and each one has had to contribute about £2000+. Following some basic advice from the Organisations head office, they go off and raise this money and apparently do so with regular success by approaching local sponsors and undertaking a series of fund raising events such as sponsored runs/swims or whatever. My son, Chris arranged to spend 24 hours in the local butchers deep freeze and had all his mates sponsor him hour by hour. He did very well out of this.

Attracting sponsorship is not easy -I have enjoyed little success myself, -perhaps because I have never persisted and have usually been prepared to pay my own way or have been paid for by the organisers of various symposiums in return for an input. Sponsors will want to know what there is in it for them; that is what will they gain from your promotion/recognition of their product or service. So many sponsors have been let down by those who have taken the money and run. Your success depends on your own track record, on the extent to which your expedition is imaginative and dangerous (within limits as no one wants to back a pending disaster) and the rationale for your expedition. If you are David Attenborough and are taking a group of handicapped youngsters to undertake an expedition to Africa to encourage the natives to be self-sufficient, then the business world will be competing to donate and have their company names in the list of credits. On the other hand if a small group from your local canoe club want to paddle the west coast of Scotland for no other reason than to enjoy the experience then you can be sure that any approach to a local business man will be “Why should I pay for your holiday”, -and he would be quite right. No sponsor is going to 'pay for your holiday'. They want a return which means they want adequate recognition. Northern Dairys sponsored me to Greenland. I wore their milkmans jacket with their name in big letters across the back whilst stood on an iceberg with a magnificent panarama of mountains and glaciers as the backdrop. I paddled one of M'Nultys sea kayaks in front of the Statue of Liberty in New York Harbour. They subsequently used the photographs in their publicity and they considered this a fair return for providing me with one of their kayaks.

The problem is that so many have cut and run once they have received sponsorship, so others coming up behind get short shrift. Sponsorship can be gained. Be patient, persevere and show you have something special to offer. If the hundreds of BSES and Raleigh youngsters can do it, so can you.

You may well have to ‘speculate to accumulate’ in that good quality letter headed paper and a coloured glossy brochure will almost certainly impress.

You are demonstrating to a world of would-be sponsors that you are committed sufficiently to be spending your own money, and the brochure will be selling your expedition which in turn shows

professionalism.
If a brochure is over the top, try putting together a portfolio which includes photographs of expedition members with their personal profiles. Explain the Aims and Objectives, your proposed area of operation and an outline of your plans to date. Put the lot neatly arranged in a ring binder and you have something that hopefully people in your local business community will want to be part of. Your local media will also be impressed and selling your venture in order to gain publicity becomes easier.

LOGISTICS
When you come to work out the cost of your expedition you will be listing everything that is going to cost. you. This sounds too obvious but this list also becomes a summary of the logistical exercise you are undertaking. Let us look at an example of such a list and you will see what I mean.

(i) INITIAL PREPARATION.
Such items as brochures, letter headed paper, stationary, stamps and the cost of meeting your fellow expeditions. If you are spread across the country this can be an expensive element, (but these meetings do make for great house partys).

Then there are maps, charts, pilots and other informative literature. If going off to foreign places you should at least make an attempt to learn the language. I sent away for the BBC Language course in Russian when I took the British Schools expedition out there a few years ago and though I had not mastered the language it became invaluable when I was steering myself through the Russian beaurocracy and avoided some of the 'scams' that they are infamous for!!

You should plan to visit places where information is available such as the ROYAL GEOGRAPHICAL SOCIETY, the EXPEDITION ADVISORY CENTRE, museums and other relevant organisation such as the BRITISH ANTARCTIC SURVEY in Cambridge. These and many other centres will offer help, so budget to visit and be sure to take other expedition members with you.

Then there are travel plans. It is worth shopping around. There are some great deals to be had on the Internet (e.g. Expedia.com). I have made friends with the manager of my local travel agent who does my shopping around for me. Not all agents are so effective in that they will give the cheapest quote they first come across only for you to perhaps subsequently find out that by re-routing or changing dates, using cargo planes that stop over frequently or by using stand-by tactics, you could have made a substantial saving. So already you have made a list of expenses and you have got no further than the planning stage.

(ii) EQUIPMENT.
I am a great believer in check lists. Choose a couple of headings under which you can list relevant items. As example, how about cooking, food, camping, clothing, kayaking, personal fear, scientific, photography- .. Let me choose one of these headings:- CAMPING. Now I will jot down the list of items under this heading. Tent, (don't forget the poles and pegs as I did on a wet and windy trip to Lundy Isle!!) sleeping bag, camping mattress, torch, bivvy bag. How about FOOD as a heading. Here you could list your day by day menus. Eventually you will actually pack up your food into airtight polybags (some are designed to have the air sucked out of them) ready for day by day consumption.

At this stage you need to work out total amounts by bulk. You might hope to hunt for food whilst on your expedition. Sometimes you can reliably expect success, as for fishing in Arctic Norway, but otherwise it may be a good idea to rely on what you take with you or what you know you can purchase locally. As well as your day to day menu there are the bulk group foods such as herbs, spices, sugar, coffee, jams, butter etc. There are many books around on expedition planning where you will find suggestions for menus and catering. My intention is to simply point you in the right direction.

A word or two on general catering matters as I pass this way. Expeditions are energetic and shortage of food, bad cooking or bad storage can lead to the ruin of an otherwise good expedition. Be sure your diet is adequate in bulk as well as nutritional value. I am a believer in taking food that you normally consume at home as far as this is possible. Expeditions stretch the anatomy and physiology of the body without inflicting strange foods on it as well.

I have actually gone on to the diet we intend using in the field a couple of weeks prior to setting off, so I know I can handle it, because expedition food in the wilderness has to be considerably different from what we are accustomed to at home. How I crave for a jam doughnut and not a "DUNKIN DONUTS' in sight!

A few comments on equipment. When listing or indeed packing, have three categories. Essential, useful and luxury. You will possibly end. up by only taking items under the first category. I usually cheat a little and force a luxury item in somehow, it is amazing how a box of Thorntons Rum Truffies can lift the morale, a bottle of Black Label (go on, -spoil yourself). I even smoke a pipe on extended expeditions when I normally do not smoke at all.

On returning from your trips always check on what equipment you lugged away with you and failed to make good use of. I always take too much clothing (but then again, prolonged bad weather could, have meant I needed every stitch) and I usually fail to take sufficient film. Eventually you should get it about right. It certainly makes packing easier, if you keep all your expedition gear in good order and neatly arranged. I use a comer of my 10ft and keep check lists handy to tick off. A memory like mine requires good organisation apart from which it is so frustrating trying to open a tin of food using anything other than a tin opener!

Frustration is one thing, safety is quite another. Some friends set off on a simple weekend paddle, all had forgotten to take spare paddles' On the way back from the Skerries off the Welsh coast a paddle broke and as they had set off late they had little tidal advantage to spare -so occurred an epic. Certainly you should double check that between you, you have all your safety equipment, spare paddles, UHF marine radio, flares, buoyancy jackets, tow line, first aid kit etc.

CHOOSING YOUR TEAM

Do not underestimate the importance of the need to have the right people with you particularly on an extended expedition. One member of a team who suddenly decides to go his or her own way during an

expedition for no apparent good reason can wreck an otherwise good and well planned expedition.

It matters less when away for a few days. Club trips are usually of this duration and it is possible to put up with someone who rubs you up the wrong way for a short time. Try and be patient over several weeks. I can tell you it does not work. It is surprising how strong relationships become strained on an extended sea kayaking trip and how wearing it is to share an experience with someone who declines to share all the chores, who wants to go in a different direction, when schedules and tides demand otherwise, who snores ALL night. A good friend in Aylesbury could well turn out to be a real pain in Alaska.

Fortunately, it is rare to hear of expeditions failing or finishing purely because relationships have broken down, though I can still quote a couple if pushed. Personally, I have been lucky so far and have usually gone onto cement friendships with most people I have been lucky enough to paddle with.

So what is the secret? I do not have it. I rely on a gut feeling that assures me the team is going to work well together. You can usually tell during training and preparation whether you are building on friendship or having difficulty because someone -and it could well be me or you - that is not co-operating. Let us briefly look at the situations which bring expedition members together. The first one is a small group of friends coming together at the canoe club or local pub and deciding on a weekend paddle on local waters. It would be extremely rare for problems of personality differences to emerge on such a trip.

There is the open club trip where the only criteria for tagging along is a Level Three Award in Sea Kayaking as awarded by the British Canoe Union. Usually the organisers know their fellow club members well enough to ensure all are capable; but should someone join the trip who simply cannot keep up or fails to enter into the spirit of the trip, then the organiser, usually the leader, has a problem.

I have led several expeditions of six weeks duration, where I have been able to choose my team of leaders but have had no control over the participants. This has presented a few problems which I will say something about. First I have been really fortunate with my team of fellow leaders and put this down to several reasons. We start off on the basis that I d.o not lead but I manage, and my management is based on consultation and agreement with my team. Leadership has its place and I will say something about this shortly.

It is important to start off with clear objectives for the expedition with well understood parameters. Given that your team accepts the invitation to join you based on this, then it remains to achieve the objectives through discussion and agreement. It is important that the strengths of a. leader team are fully utilised and you will fail in this if you simply make decisions. Immediately your colleagues have no 'ownership' of these decisions they are consequently less encouraged to see them through.

Behind this management technique lies the fact that the final buck has to stop somewhere and this has to be with the leader.

As for the participants of the expedition that is being led by you and your team of leaders and who you have little or no persuasion over selection. Here they are consciously joining an expedition which they know is being led and they are expecting to be cared for and should be expecting to obey instructions. This position may well shift somewhat over the duration of an extended expedition in that the more competent and independent characters could be encouraged to use some initiative without endangering the rest of the group.

None the less, the basic relationship is that the leader team is ***responsible*** for the participants and as such have the right to lay down the ground rules. As an example, it is right for the leader to insist that his charges wear buoyancy jackets, remain with the group, share camp chores on a rota basis, etc. etc.

Dealing with a participant who decides, halfway through an expedition, where there is no immediate or safe way for he or she to simply leave, that. they are not going to play by the rules takes a deal of patience and perseverance.

When choosing your expedition team there are other considerations other than just compatibility with each other. I remember as a youngster playing cricket with an obnoxious kid from next door. Thing is, he owned the cricket bat! It may be that the only club member with a car who is prepared to use it to transport you and your kayaks to the coast is a painfully slow paddler on the water. On a serious expedition you are going to need several skills. Cook, photographer, navigator, scientist, first aider. This consideration may well determine who you ask to join you.

There is also the question of expense and cost. The more there are of you the more ways that the cost is divided. Balanced against this of course is the number you believe right for the expedition you have in mind. I believe that three is an ideal number for a truly serious expedition over any length of time. It was three of us who circumnavigated NUNIVAK ISLAND in the Bering Sea a few years ago. There was never any discussion about leadership. The three of us knew each other well enough to have sufficient trust and confidence and over six weeks of often pretty hard going all our decisions were readily mutual ones.

Bill Tayler in his book, COMMITMENT AND OPEN CROSSINGS devotes a couple of pages to explain his thinking on the choice of his teams to undertake a circumnavigation of Great Britain in 1986. *"My main concern was to find a group with complementary skills rather than a group of brilliant individuals. ...We were just a group of club paddlers with a determination to work for each other and with a broader-than-average all-round experience of canoeing".* Bill explains that his choice of three was largely made on basic logistics in that one tent, one stove and one set of cooking gear would suffice. I was taken with his rationale of four paddlers needing two tents which might encourage two teams of two to emerge. Other expeditions I know have avoided this by ensuring that members swap tent places regularly.

At the end of the day, you can never be sure that a fellow kayaker will be ideal, short of ideal or a down right pain in the proverbial, over an extended expedition through remote areas with continual rough weather. Many an employer, with references, interviews and qualifications all saying his potential employee is ideal, has employed only to regret it later. For me, one of the main attractions of kayaking, or indeed any part of an expedition, is the opportunity to make or improve friendships. Though I occasionally enjoy a solo paddle, I much prefer to go off with a 'gang' of mates and share the experience. BUT be prepared for changes in personality when the going gets rough. Extreme violence can result at worse and damaged relationships at best if you get it wrong.

LEADERSHIP

I have alluded to leadership in my paragraph above on choosing a team for an expedition and I believe it worth spending a moment to consider the meaning of the word in an expedition context.

Earl de Blonville in his new book 'Seventh Journey' he discusses our mutual hero, Gino Watkins in the context of leadership. ***"At essence is the complex issue of his leadership style. The leadership debate, increasingly led by academics without real field experience, is still foolishly polarised between born and learned, which is wrongly looking at the source rather than the natural mechanics. The truth is that leaders are neither born nor made: they simply emerge. Peacetime wimps have unexpectedly become wartime lions while grassroots leadership, like grass itself, everywhere emerges when the weight of normality is lifted by the demands of opportunity. In effect, leadership happens. When called, it can emerge to meet a need along the continuum of circumstance, and when it is not needed retires with potential intact to await a new call. It comes and goes, yet is always there. Anyone can lead unconsciously. All they need is circumstance. But to lead consciously, they need expectation. To***

grasp this is to begin to understand Watkins. While Gino as a leader could not easily be explained by his peers, the secret of his innocent style owed much to a natural grasp of authority."

Relating this to the kayaking expedition scene we know how, when the weather suddenly springs up rough, a kayak leaks badly miles out to sea, or a member becomes badly ill or injured, then a natural leader immediately emerges. It may be the assumed team leader who is allowed to take the decisions, but if it becomes obvious he or she cannot cope because panic sets in, lack of experience is showing and wrong decisions are being taken, then hopefully some other member of the party will take over. The problem here is that before this happens an argument may well ensue, whilst the original leader tries to hang on to power, all the time the group is unsure of loyalties whilst it is drifting rapidly into the rocks. Much has been written about leadership and styles of leadership and I do not want to labour over it here. Suffice to say that the need for effective management under "normal' conditions and effective leadership when conditions become abnormal is crucial to the success of any expedition and the group needs confidence in each other and in the leader whether he or she is appointed, self-appointed or simply assumed.

I will end this subject by quoting Lao Tze
'A leader is best when people barely know that he/she exists, not so good when people obey and proclaim him, worst when they despise him. Fail to honour people, they fail to honour you. But of a good leader who talks little, when his work is done, his aim fulfilled, they will say

"WE DID THIS OURSELVES".

RESPONSIBILITY
Get up and do something and immediately you have taken on some responsibility.
Certainly if you organise, and most certainly if you lead an expedition you assume responsibility for yourself and for others joining you and it is worth considering just what you are taking on.

If you are qualified, indeed if you are unqualified, and have set yourself to instruct or lead others you have a direct responsibility for the safety of the group both on and off the water. In return the group members have a responsibility to co- operate and follow instructions. Here my words on leadership may be appropriate. The group takes on obligations, particularly when safety is at stake. For example, they WILL wear buoyancy jackets, - then so should you as an example, even if conditions are flat calm and ultra-safe.

All this is fairly obvious. But what of the much wider responsibilities when you undertake a serious expedition. Let us look at a few. Are you going to paddle on to reach a warm dry tent when one of your party is slowing down and becoming tired or even capsizes? You need not answer this, -I know the answer.

What about your obligations to sponsors. Obvious perhaps, but the number of expeditions that have been generously supported only to forget this support once the expedition is over. When others come knock- ing the sponsors, who have long memories, are not impressed. When travelling abroad you have the distinct responsibility of living up to your own country's ' standards and adopting the moves and customs of your host country. I remember walking past an Eskimo who was beating his huskie mercilessly for stealing a piece of seal meat he had just thrown down from the drying frame to his wife. The young person with me was all for going in and dishing out similar treatment to the Eskimo. As an animal lover I was also inclined, but. this was not our country and to interfere would be displaying an arrogance like that shown, by early missionaries who 'converted' aboriginal peoples so destroying their culture whilst providing them with misguided instructions.

Your expedition may well be under the auspices of a University or be B.C.U. approved. You then have a

responsibility to uphold the standards as set by these bodies.

Though all this is fairly obvious I believe it is worth a mention here in my book.

Peter Bray completing his crossing of the Atlantic from Newfoundland to Ireland 2003

INSURANCE, LEGAL CONSIDERATIONS

If you fail to insure either inadequately or even at all, then you are gambling. If fate is kind you will have saved yourself the premium; but if some mishap should befall your expedition, then you will regret your decision to save money. If you or your expedition has a serious mishap then you could be making payback over a lengthy period. Remember, also, that we all have responsibilities under the Health and Safety Act in terms of 'duty of care'.

Insurance cover must not be considered a luxury but an essential item, to be adequately costed in the early planning stages. Some years ago we had to call in a helicopter to airlift a head injury from our remote position to hospital. Even in those days a helicopter in Greenland cost £1,000 per hour!! Taking a casualty home may take an air-ambulance and you are now considering a really big expense. A bear making a mess of your grub stake is one thing, -even a fractured kayak or paddle should not be the end of the world, but expensive science equipment, cameras, etc. all need insuring.

Let me make a few salient points: -

(i) Always declare all material facts, -failure may well nullify your cover.

(ii) Take some claim forms with you so that all information demanded by these forms is provided.

(iii) Do not rely on 'umbrella' cover as provided by a policy belonging to an organisation, -check this sort of insurance out to ensure it protects you all and your expedition adequately.

(iv) Investigate the special cover required if you intend hiring local labour or taking your own transport.

(v) Understand your policy, -read the small print.

Finally, whilst on this particular subject it is worth pointing out that whenever more than one individual comes together to plan and undertake an expedition then there are certain legal considerations to be considered. There are liabilities and obligations between all parties involved. An expedition is not recognised as such by the independent legal status. In fact, it is nothing more than a collection of individuals who each have the same rights and obligations as any other individual. Because of this an expedition cannot enter into a binding contract in its own name; it cannot be sued nor can it sure it cannot own property and there are no rules governing the relationship between expedition members.

If necessary you can find solutions to these limitations. For example, you can form your expedition into a company which will enable the expedition to contract in its own name, and it will limit the expeditions' liability to the value of its assets; from the expeditioners point of view there are disadvantages. For example, the formation expenses are fairly expensive and compliance with the rules of the Companies Act is an administrative headache.

Unless you are working for an existing organisation with sufficient experience and resources, it is worth looking into these sorts of details before embarking on anything more than a regular trip out with a group of mates. There is nothing worse than finding out the hard way, so investigate first. It could be time well spent!

POST EXPEDITION

A small word of warning. It can be difficult settling back into your normal routine when you return from an extended expedition. There is a need to re-adapt. Adapting to expedition conditions is made easier by the knowledge that the experience is finite in time. Re-adapting to your day-to-day routine brings no such re-assurance. The boss is unreasonable, work is a bind, colleagues do not understand, the family demands have piled up.

An expedition experience does bring a freedom which compares with the daily restrictions of your normal routine so you may suddenly feel like being 'imprisoned' by the need to pay a mortgage and get back into the work mode. Your whole attitude needs to change. Be prepared for this, in case it is a problem. Take comfort in the knowledge that very soon the expedition is a memory as the routine sets in and of course you will be planning the next one before too long!!

One of your major considerations will be the preparation of your Expedition Report and your Expedition Presentation. The Report is particularly important if you are publishing results of science projects and research. Sponsors will expect a copy with the recognition of their support. Hopefully you will have kept a diary, during the expedition, and this will be your aid to an accurate and complete report.

An Expedition Report should serve the following purposes. It should set out your original aims and objectives and describe how you fared in achieving them. You should describe your experiences, the good and bad. Have maps, diagrams to ensure your readers know where and what you are describing. Finally it will serve as a record for further expeditioners researching the area you have visited so that they may build on what you have achieved.

I particularly enjoy putting the visually aided lecture together. Think about your presentation whilst in the field. Anecdotes are always well received. Make running notes of humourous events. Of course the important incidents will stick in your mind but it is often the detail that entertains.

Some years ago, whilst contributing to a Sea Kayaking Symposium abroad, I was asked to give a presentation to all the participants. It was to be the final session and I was totally unprepared for it, having already put across my prepared presentations during the course of the symposium. Hastily I thought of a theme, -safety at sea, and to this theme I listed what I believed to be the salient points, then noted a number of anecdotes to illustrate my points. Some stories were mine, mostly they were from

others. Maybe the winds strengthened a force or two, the waves a metre or two, all tales gain in the telling. In the event I think my talk went down well, the question and answer session went on a while which is a good guide and I felt the audience was with me.

Let me say I have had my share of reversals. I am not a natural public speaker and have to rely on slides, OHPs and, more recently Power Point Presentations. Notes and/or prompt cards can be useful but do not appear to refer to them too often as this is a 'right put off'. Take a look at some excellent books on the subject of public speaking. It is best not to 'hide behind' these visual aids. If you have been on an interesting expedition then the audience have also come to see and hear from you directly. I rely on a few minutes at the start of a presentation to introduce both myself and the show and then I always enjoy the question session at the end when the slides are finished and the lights are up. Questions from the audience give confidence that at least one person is interested in what you've had to say!

There are usually two types of presentation. The informative as given to courses and the entertaining as given to the local canoe club. Try and be both with the emphasis on one or the other depending on the audience.

A few tips. Always be prepared for anything. Expect a well heated and spacious room and you will find a cold and cramped one, expect a big audience and there will be a couple of people sat at the back.

Never, never try to fool the public, particularly those at a canoe club. A young man gave a wonderful presentation about his solo journey around Britain to the Derby Canoe Club but was seen by a couple of the better informed paddlers to be a fraud. Do not shove in slides of close up of whales and claim them as your own when you have 'filched' the picture from National Geographic!! It has been done.
If you borrow slides to supplement yours, then check them out before including them in your show. I once borrowed a bunch from Earl de Blonfield and he had sneaked a pornographic picture in which I shall not seek to describe here. Particularly embarrassing as I was talking to the local Round Table and my wife being entertained at the top table. She was not amused! Needless to say, I was not invited back.

I always go self-sufficient, with my own projectors, extension leads, screen etc. Ask what time you have available and keep to it. Ensure that the organiser who is to introduce you is properly briefed by you. Arrange the audience If necessary bring those two solitary souls from the back and sit them right up front - small is intimate.

Rehearse and be prepared. (The principle of the 4 'P's, applies - Preparation Prevents Poor Performance)You have got to work at it to be a 'flop' if your expedition was exciting and your slides are good, but none the less..... Use music to enhance your show. I favour putting on some of the better slides at the end, set to appropriate music -always makes for a memorable finale.

I read somewhere recently that a lecture should have an arresting start, and a resounding ending and that the middle bit is important too!!

Nigel Dennis at a Newfoundland Sea Kayaking Symposium

CHAPTER FOUR

PART 2

EXPEDITIONS BY SEA KAYAKS - THE 'UNDERTAKING

STAFFA AND IONA

Merrily, merrily, goes the bark
On a breeze from the northward free,
So shouts through, the morning sky the lark,
Or the swan through the summer sea.

The shores of Mull on the eastward lay,
And Ulua dark and Colonsay,
And all the group of islets gay,
That guard famed Staffa round

The cormorant had found,
And the shy seal had quiet home,
And sweltered in that wonderous dome,

Where, as to shame the temples decked
By skill of earthly architect,
Nature herself, it seemed; would; raise,
A monster to her Maker's praise I

Sir Walter Scott

The planning is over and it is time to load your car with equipment and food and secure your kayak to the roof-rack.

A couple of points at this stage. One, double check you have everything and second, tie your kayak down to the front and back bumper. Do not rely solely on ties around the body of the kayak and certainly do not rely on elastic shock cord. Be aware that if your kayak comes flying off then you are liable in law. It happened to me some years ago when my slalom kayak flew off my rack on the M2 motorway. I had let someone else tie on the kayak and had failed to check it for security. It slid straight under a following lorry! The lorry driver had a definite sense of humour failure! Ever since I tie on my kayaks to my vehicle and let others secure their kayaks to their vehicles.

You arrive at the coast, off load your vehicle and you are either going to camp for the night or get right onto the water. Before embarking on your extended (more than a day) expedition, you are going to have to make your car safe. Before leaving do make sure that either an arranged contact or the Coastguard knows where and why you have left it. Some years ago a couple of kayakers were seen leaving their vehicles on the Yorkshire coast by a well meaning and interested bystander. Next day, our well meaning bystander, raised the Coastguard who instigated an expensive search whilst our erstwhite paddlers were weathered in several miles along the cost, safe and protected in their tent just waiting for conditions to improve. When all came clear the Police were distinctly unhappy and 'feathers required smoothing'. It was at this time that I learned how the police have jurisdiction up to three miles off shore.

1. PACKING A KAYAK

Your next task is to pack your kayak ready for the off. Let us ponder on a few points.

(1) If you know your kayak will remain dry within the bulkheads then you need not worry too much about the use of dry bags. Having said this, I am a 'belt and braces' man and always keep my gear in waterproof bags. A kayak which hitherto has not let you down can easily leak and there is nothing worse than wet clothing and gear when the weather refuses to let you dry it all out. I prefer a down-filled sleeping bag which must be kept dry at all costs so I take every precaution. So work hard to keep your stuff dry.

(2) Pack your kayak so that the weight is evenly distributed both along the length and the width. Overload the bows and the kayak will 'plunge' into the oncoming waves causing a wet journey, over-load the stern and the wind blows the bows off course. So keep the kayak well trimmed.

(3) Another point whilst on packing, - do keep all your gear in the kayak if at all possible. On a trip to Scotland, with members of a local canoe club, one guy was always last up but first on the water. He packed most of his gear on the decks rather than in the kayak. He thought this a 'wheeze' until we were faced with strong squalls on our final day and was blown around in circles and even lost some of his gear. Nothing wrong with spare paddles, chart, compass, deck lines, tow lines and perhaps a sheaf knife, fishing gear. By and large, keep decks free and use your bulkheads. You can use the cockpit for the few items you may need en route such as flares, emergency rations, radio, repair and first aid kit.

(4) Where you pack what in the kayak is usually determined by the need to have certain items readily available on landing as well as weight balance and where gear will actually fit. Your first requirement once you have hauled the kayak above high tide may well be warm dry clothing. I also have in mind a tent or tarpaulin so that you can unpack whilst keeping everything dry. In fact, whenever I am looking after a group, I try and keep a tent, a stove and dry clothes -even sleeping bag - handy in case someone gets seriously chilled. I was leading a group of 17/18 year olds along the Arctic Norway coast, when we were caught by bad weather. Rather than go on in the hope a landing spot would come available, I decided to paddle some considerable way back into the lee of some islands and to a campsite.

One paddler needed towing and by the time we did make landfall he was very cold. Up went the tent, on went the stove and very soon he was in dry clothing and fully recovered, but it was a close call.

To use the space in the kayak to the best effect you may find that some of your equipment, for example the frying pan, (I always take along a good sized one for cooking any fish I might catch), will only fit within the cockpit behind your seat.

As large hatch covers become more popular, it becomes possible to actually leave a lot of gear permanently in your kayak -including food. The problem with this is that on your final day you find food and 'goodies' you had forgotten and could well have used earlier, but at least whilst it remains undisturbed it remains dry and intact, and hopefully safe from bear raids! I

(5) Finally, there is a safety angle to packing your kayak. There are some essential items you should have handy, either in your cockpit or on your person or secured to your deck. Emergency rations are more than just useful, should the campsite prove to be further away than you thought and intense hunger sets in as the wind also slows you down. Flare and UHF radio might be needed in a hurry and so might a first-aid kit (blisters, sun cream). Cag and extra clothing should be accessible in case the weather deteriorates. Do not forget the repair tape, -the sticky pipe lagging (DENZO) tape that sticks and proofs a wet kayak is what is needed.

I may have been seen to make heavy work of packing a kayak. Indeed it can be one of the most irksome aspects of an expedition. There is little worse than desperately trying to fit those last bits in whilst everyone is patiently, even impatiently waiting for you on the water. Among sea paddlers is this urge to be among the first ready for the off. I have known many 'races' with everyone casting furtive glances at each others' progress. A timed deadline overcomes this nonsense.

A word of consolation, practice really does make perfect, in that after a couple of days you get to know just what should go where in your kayak. Your first time pack can take ages in comparison with subsequent packings. Take heart.

2. LAUNCHING

I hate wet feet, at least I hate wet feet when I am about to go off on a kayak trip. I use small wellies but the secret is in a dry launching and a dry landing. The other consideration is launching without damage to your kayak. Often you can rely on a jetty or convenient rock. A gradually sloping sandy beach suffices well but you must be prepared for all eventualities. Let us take this technique step by step.
If you are able to place the kayak into deep water and step in, first face the kayak into the wind and waves. Place your paddle across the back of the cockpit so that a blade rests on the jetty or rock. If the kayak is facing to your right, turn to face the same direction placing your left hand on the back of your cockpit to secure the shaft of your paddle. Now, keeping low, place left foot into cockpit keeping right hand on the ground. Slide over so that your backside is on the rear deck, if you have a small cockpit, otherwise directly onto the seat. At the same time, whilst keeping the weight over towards the right side to make use of ground support on the paddles, bring your right foot into the cockpit and 'wriggle' down into position as you stabilise and bring your paddle to the front ready for the off. Dry feet and no damage to the kayak. Personally I am loathe to put any weight on my paddles at all. Should you over stress them whilst embarking and break the shaft, you will have a problem of both expense and inconvenience, especially if you are miles from anywhere. My philosophy is not to put any of my gear under any unnecessary stress.

The sandy beach launch is usually easy enough, unless there is a big surf running. Place kayak so that the bows are into the waves and cockpit area is still out of the water. Clamber in as described above. There should be no reason to rely on paddle support. On with spray deck and ---damn it!! -the tide has receded or the wind has blown your bows round so that you lie parallel to the shore and waves. Never

mind, persevere and you will overcome these little nuisances. Given that you are in the right position with at least some water under your cockpit, push off using a paddle blade on one side and your free hand on the other. If there is some big surf running watch for a smaller than average line of surf that comes in fairly frequently and/or use the rip channels. These are channels cut by returning water once the surf has expended itself on the beach.

You may have to seal launch. Place kayak on a suitable rock or sloping area clear of the troubled water below. Clamber aboard, secure spray deck, switch on automatic survival instincts, grip of death on the paddles. Rock or nudge yourself forward so the kayak hurtles forward like a missile to plunge into the foaming brine.

You may have to use a support stroke (or two) before paddling off thinking, “Thank goodness I didn't jam among the rocks” or even “That was great, I'll go back and do it again!!” I know students at one Centre I have worked at were encouraged to take death defying leaps in their kayaks from great heights, usually to enter the water head first before executing a roll.

One final word whilst on the subject of launching and paddling off. Always make a study of the shore line that you are leaving from. Turn around when half an hour out and memorise the geographical features. You may well have to make an unscheduled turn back several hours later and with the tides having changed since you left any uncertainty about your destiny could cause problems. To land several miles away from your car, or the village you left from (cliffs and beaches all look alike from several miles out) could mean a hard paddle against the tide or a long walk and if you have returned due to an unplanned incident and wish to raise help, then you will have 'double trouble'.

3. UNDERWAY

At last you are on the sea. I bet you thought we were never going to get. this far. You have acquired your equipment, some skill and some idea of what it is all about, before you have reached this point. But this is where it all really begins. Where are you going? How will you get there and what will you do if anything goes wrong? What should, you have done to make sure that nothing should go

wrong? Read on for the answers to hopefully most of your questions.

You will learn about safety, the sea, navigation and weather forecasting. Assuming you are confident in these matters and are setting off either alone or with a group. You have your compass set and off you 'jolly well go'.

4. LANDINGS

Eventually you are going to land, if only to have a lunch break, nip behind a bush or ease the old back-side for a while. Be prepared for difficult landings as they will come your way soon enough. Let us look at a few easy ones.

Coming into a sandy, gently sloping beach, means just paddling straight, onto the beach. As you hit the sand lean back as the waves or momentum take you forward so that the bows skid forward as far as possible. Using hand and paddle ease forward and step out ensuring you keep dry feet.

Should there be surf running then keeping absolute control of your kayak as you come in could be a problem, particularly if there are swimmers and surfers about. It may pay to paddle in backwards so that as a surf wave picks you up you simply paddle forward allowing you full control of the wave. Alternatively, simply ride the surf in. You may have to 'hang on' to the surf wave that actually dumps you onto the beach. To do this, as your broach on the front of the surf wave, (i.e. come round parallel to it) lean into the wave placing paddle over the top of it and allow yourself to be dumped above the water line or at least not for from it. At this stage you make a rapid exit, grab the bow toggle and run up clear of the next surf wave. You may have the task of assisting a less experienced kayaker through some heavy surf. Best bet is search out a beach facing another direction where the surf is less severe. If you have little choice but to make the landing on a beach with heavy surf with novice paddlers, then consider rafting up along side each one in turn and go as described above, i.e. broach on the surf and 'bongo ride' in

Landing up against a jetty or low rocks is no problem. You may want to use your paddle as support as you did for launching. With one hand on rear of cockpit to hold the paddle shaft and other hand on the bank, lift backside up and feet out. As you step out make sure you retain balance and do not push kayak out whilst you end up doing the splits. There is such a thing as a seal landing. The wave picks you up, drops you neatly on a flat rock. The wave recedes and you jump out and drag kayak clear of the water. In all the years I have been kayaking this has never quite worked for me. I guess I have just never found that illusive rock in the right position at the right time. I will keep workingon it!

However you decide to land, stay safe. Organise your group so that a single experienced paddler goes ashore first, -swimming if necessary to protect his kayak. Having a strong person ashore goes a long way to ensuring that those still afloat can be assisted to land with the minimum of disturbance to gear, kayak and person.

Landing on a steep beach is worth anticipating. Here you should be concerned with undertow. As the waves breaks the water returns to the ocean beneath the waves and as you step out both kayak and feet are whisked down and under.

5. CHOOSING A CAMPSITE

A study of your topographical maps before leaving in the morning may well pay dividends at the end of the day when you start looking for a landing spot. Paddling for hours as it gets dark along the cliffs in the hope that a beach shows itself before the light fades altogether, is nerve wracking and can be avoided. A study of tidal direction can also be important. I usually try and head into land after a long crossing on the "up-tide' side so that I can paddle the last few miles, having accurately identified my destination with, rather than against the tide.

There is much written elsewhere about camp-craft and I only want to touch on it briefly as I look at the sea kayakers perspective.

It pays, when making a landing for the night, to consider your departure the next day. Will surf likely rise during the night, so that, the protected bay a few miles further down the coast would have been the better bet. Everything depends on wind direction and prediction about any changes.

It pays to start looking early for a landing and camping site so that if necessary you can paddle back to one you noted when another one fails to materialise as it gets late.

In fact you do not get that much choice in that you will select a site that is available at about the area you want to be as you make progress with your expedition. The two objectives you seek are a suitable site to make landfall and some flat land beyond the beach to set up your tent.

I always carry several litres of fresh water just in case, but as streams, rivers and lakes eventually empty into the sea it is usual, particularly along our coast of the United Kingdom, to find potable water not too far away.

You may also hope to cook on wood fires so a supply of drift wood or forest wood will be an advantage. Again, a measure of independence is gained by having your stove and fuel with you. As for pitching your tent, the fundamentals are obvious enough. Avoid hollows where rain water will collect. Look for some protection from the wind such as rocks and trees. Choose a flat or slightly sloping site. Remove stones and pitch tent with entrance faceing down wind. Sea views are nice but a wind blowing straight in as you are trying to cook, assuming bad weather has driven you in, can be quite annoying.

You may think it so obvious that you wonder at me advising you to camp above high tide. We landed late one night. We were tired, it was dark. We struggled with our kayaks well up the beach to camp above some huge concrete blocks -an old gun emplacement on the French coast. We eat and fell asleep exhausted. I awoke in the middle of the night to discover huge waves bouncing over the concrete blocks and the tent several inches deep in water. As it blew and rained and the sea spray filled the air, we cursed and went in search of high ground, this time well above the shore.

Incidentally, if you are going to sleep on a sandy beach, make sure you have an adequate camping mattress, as the cold soon seeps up from the sand.

6. UNLOADING YOUR KAYAK

A simple exercise in clement weather. Pull it all out, scatter all your gear around, have a good sort out. A very different story when it is wet and windy.

The very first problem is bringing your kayak up to your tent, should you be paddling solo. This is where the big orange plastic exposure bag demonstrates one of its many uses other than to crawl into the seek protection in an emergency.

Once I have pulled my kayak free of the water, I unpack most of my gear, particularly that which I intend to keep dry, straight into the exposure bag. I then 'lug' the bag up to my chosen camp site ready to unpack into my tent once it is erected. By now the kayak should be light enough to bring up to either my camp site or to make safe in the lee of rocks. In severe conditions a few rocks in the cockpit will prevent it blowing away.

Once the tent is up, camping gear safely inside and kayak made safe, then you are ready to don dry clothes (and water proofs if you are going in search of fresh water) and think about cooking your evening meal.

Let me say that keeping dry in wet weather should be seen as ' an art form' almost in that you guard against every invading drop of water. Great care and fore-thought should be exercised to ensure that all essential gear stays dry. It is under these wet and windy conditions that you will be grateful for good gear. Gortex waterproofs may be expensive but they are usually waterproof. Unfortunately Gortex is affected by salt water, so losing some effectiveness. Now let us return to that evening meal.

7. CAMP COOKING

(1) CAMP FIRES. Most of us prefer cooking on an open wood fire. Wet weather should be no deterrent if you use a decent tarpaulin (tarp). Once erected so that the wind is not going to lift it away like Mary Poppins and her umbrella and so it will shed water (unless you want to purposefully save some fresh water), and it offers protection from the worst of the wind you are ready to light your fire and start cooking that meal. I might say that we British, having a permanent craving for a 'brew', usually make a mug of tea whilst unpacking the kayak. I know our American cousins are just as prompt with the coffee.

There is plenty written elsewhere about lighting camp fires and camp cooking and this is a book on sea kayaking. Consequently I am going to allude to some of the basic fundamentals only.

Lighting a camp fire is easy enough if you are able to make a start with some dry tinder, even small fire-lighters, as carried along with you. The main problem with wet wood is the excessive smoke it gives off. Once the fire is ready for cooking on, it will be free of any fierce flames and clouds of dark smoke. Ideally the fire will be both hot and smouldering, a state not maintained for too long before fresh wood is needed to keep it going. Many of us use metal grids. I recently came across a friend who had designed his own that folded down for carrying in the kayak but when pulled out to a frame and the nuts tightened, made an ideal support for cooking pots. (I suggested that he patented this device!) The frame is supported a few inches above the fire on rocks which are placed around two-thirds of the fire allowing draught to enter the exposed one-third to feed the fire. This one-third being narrowed or opened to control rate of burning, crude but reasonably effective.

There is a lot of comfort from a raging camp fire, once the cooking is complete.

Bruce Cook will remember the fire we built on the beach that was so hot it cracked the cobbles sending rock splinters flying in all directions rather like a mini grenade! My concern, apart from having my legs shot off, was that a passing vessel would take our fire as an S.O.S. signal!

Here comes another obvious statement. Make sure that you put the fire out before turning in. We made our fire among the rocks high on the beach not far from the lush but dry grass. We cooked fish, drank vodka and enjoyed the setting sun and fading light. I fell asleep watching the sky filled with stars. Later I woke to hear rain, yet the clear night sky was visible. I was curious enough to investigate. It was not rain but the crackling of fire as it burnt the thick dry grass, sending billowing smoke skywards. We were on the Fleet Isle on the mouth of the River Dee estuary on the Kirkcudbrightshire coast. I wish I had time right now to tell you the full story. Suffice to say we eventually got the fire out but such was the epic that is has gone down as one of my special memories. Years later I revisited the Island and the grass had re-grown as fresh lush pasture. Fortunately, our fire had come under control just in time to fall short of the lighthouse and its fuel supply!! Now I always make sure that our camp fire is thoroughly wetted out before I turn in.

(2) CAMP STOVES.
Enough about camp fires. Let us look at a few camp stoves. Clearly these come in to their own when you simply want to cook a meal, particularly when needing to do so in your tent.

CAMPING STOVE FUEL - WHAT TO ASK FOR

COUNTRY:	PARAFFIN:	PETROL :	COLEMAN FUEL	METHYLATED SPIRIT
UNTD KINGD	Paraffin :	Unleaded Petrol: 2 Star Petrol	Coleman Fuel	Methylated Spirit "Meths"
FRANCE	Petrole	Essence	Petrol a Bruler Essence Filtree Blanche Sans Plomb	Alcool a Bruler Alcool Denature Alcool Methylique
HOLLAND	Petroleum Lampen-Olie	Benzine Normaal16		Spiritus Brand Spiritus
GERMANY	Petroleum Paraffinol	Benzin		Spiritus Brennspiritus
ITALY	Olio de Paraffina	Benzina		Alcool Denature Spirito da Brucaire
SPAIN	Parafina	Gasolina		Alcohol Metilico
SWEDEN	Fotogen Petroleum	Bensin	Vit Bensin	T Spirit Dod-Spirit
U.S.A.	Kerosene	Gasoline Gas	White Gas Naptha Coleman Fuel : Blazo	Denatured Alcohol

WHAT FUEL

ADVANTAGES	DISADVANTAGES
Coleman Fuel Petrol based, but cleaner, easier to light, less volatile, and faster burning with a hotter flame. Spilled fuel evaporates rapidly and leaves no no lingering smell	Only obtainable from camping shops. Expensive compared to petrol. Can flare during lighting sequence. Pre-heating needed - immediate flame.
Vehicle Petrol (leaded or unleaded) Readily available in most countries. Burns with a hot flame. Spilled fuel evaporates rapidly and leaves no lingering smell	Stoves need regular cleaning and cooking on a low flame is inadvisable (see above). Can be difficult to obtain in small quantities. Can flare during lighting sequence. Separate fuel needed for pre-heating -no immediate flame. Volatile.
Paraffin Burns with a hot flame. Spilled fuel will not ignite. Easy to obtain in many Third World countries where paraffin stoves/lamps are main source of heat/light -check travel guides for availability. Obtainable from hard-ware shops in UK and Europe. Dry cleaning fluid is an excellent substitute, obtainable in many third world capitals and some principal towns.	Separate priming fuel needed-no immediate flame. Spilled fuel does not evaporate and leaves a lingering smell. Can flare during light-ing sequence. Fuel may be dirty in third world countries-use fuel strainer such as Coleman funnel when filling bottles/stoves and clean stoves if they start to clog
Methylated Spirits Simple and quick to start -no pre-heating or pumping. Safe and predictable. Spilled fuel evaporates quickly. Quiet. Fuel available from dispensing chemists and hardware shops.	Slow burning. Not suitable for very cold conditions. Difficult to obtain in some countries
Camping Gaz Simple arid quick to start -no pre-heating or pumping. Controllable. Replacement cartridges easily obtained in camping shops, and some hardware shops, throughout mainland Europe (but not Eastern Europe or Scandinavia). (compatible cylinders obtainable (but not always readily available) in most other countries of western world, and in most climbing/trekking areas of third world. (Consult Camping Gaz or travel guides for details.	Inefficient in windy conditions, slow in cold conditions, will not bum below -5C. Inflexible-cylinders only available in one size, and can only be removed and replaced when totally empty. Output reduces significantly as cylinder approaches end of life-time and fuel can be wasted slowly burning off gas to enable cylinder to be changed. Cylinders should be changed away from naked lights, and preferably outdoors, as there is always a small amount of gas leakage.

WHAT FUEL

ADVANTAGES	DISADVANTAGES
EP I GAS Simple and quick to start -no pre-heating or pumping. Controllable. Hotter than Camping Gaz and can be used in colder conditions thanks to propane mixed into cylinder. Flexible-three sizes of cylinders available. Self-Sealing cylinders -can be safely removed at any time during their life. Cylinders can be removed for transport -easier to pack, no danger of stove accidentally being good turned on. F & T tip: As the cylinders approach the end of their life they may not produce enough heat to bring large pans to the boil and may need to be replaced with a fresh cylinder for efficient cooking.	Higher fuel cost than Camping Gaz. Many European and American companies now make stoves and blowtorches with an identical sealing system, so compatible cylinders are now available in most camping (and a few hardware) shops in these areas. Cylinder availability is not as good as Camping Gaz worldwide, however, but getting better. Simpler stoves not in very cold conditions, but cylinders can be removed from stoves and put safely in a warm sleeping bag (or down shirt front) for ten minutes immediately prior to use for a degree of pre-heating to improve initial performance.
Solid Fuel and Petroleum Jelly stoves Ideal for a small' 'brew kit' " or emergency stove. Can also be used on mountain marathons etc.. where ultra lightweight one-use stoves are used. Solid fuel tablets can be used for pre-heating paraffin stoves.	Low heat output, poor wind protection, and either no controls, or crude controls over heat output make cooking difficult.

Stoves tend to be classified depending on the fuel they burn. Paraffin fuel is put under pressure, preheated and the ensuing gas ignited to give a good controllable heat. You must keep these stoves in good condition if the jets are not to clogg. Paraffin does smell and it hangs around if you spill any. It is some- what safer than petrol as any spill that does ignite will not flare and can be readily put out. On the other hand, as I can personally testify, petrol is the very opposite, ignite any spill and 'whoosh' you could be sat. there with singed eyebrows and bare tent poles. Again the petrol stove relies on pressurised fuel, but being cleaner than paraffin, jets are less inclined to clogg.

Multi-fuel stoves are useful. Simply by changing the jets you can bum most available fuels, important, if travelling to other countries, where one particular fuel is readily available but others are not. Whilst on the subject be aware that fuels have different names in different countries.

Triangia cookers are useful. These came as a set of pans with a small methylated spirit container which when simply lit by application of a open flame is ready for cooking. These cookers are not quite so controllable and are rather fuel greedy. I prefer these cookers, when cooking in the tent, and being simple will not breakdown when you need it most.

The Coleman Fuel (peak) stoves bum white gas and are worthy of consideration.

There remain the gas canister stoves which I like for one day trips as they are reliable and effective. Always carry a spare canister as these stoves have a habit of running out of fuel mid-cooking with the minimum of warning giving lower pressure and fading flame.

The simple solid fuel stove is worth carrying for back up should your regular stove pack up. These take up little space and will be useful to take along if you have to walk out for any reason.

As for fuel consumption, obviously this depends on how long your meals take to cook, how many meals or brews you make and how many wood fires you use. A rough estimate is a maximum of 1 L per person per day.
N.B. advise extreme caution when using camping stove in or near a tent and unless an experienced camper you should cook well away from your tent.

3. CATERING

THE ABC OF VITAMINS -As found in St. Barts Hospital Journal January 1928

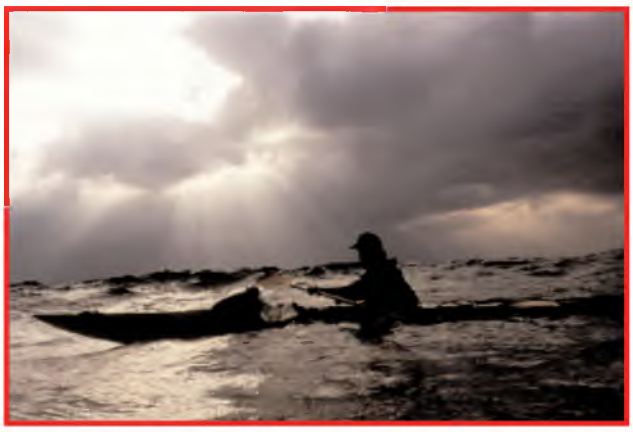
Oh fine and flat was Ralph the rat,
And his eyes were a clear cold grey,
How mournful that he ate less fat,
As day succeeded day,
Till he found; each cornea daily hornier
Lacking its vitamin A.
"I missed my vitamin A, my dears",
That rat was heard to say,
"And you well find that your eyes will keratinise
If you miss your vitamin A".

Now polished rice is extremely nice,
At a high suburban tea,
But Arbuthnut Lane remarks with pain,
That it lacks all vitamin B,
And beri-beri is very very
Hard on the nerves, says he.
"Oh take your vitamin B, my dears",
I heard the surgeon say,
"If I hadn't been fed on standard bread
I shouldn't be here today"..

The scurvy flew through the schooner crews,
As they sailed on an Arctic sea,
They were far from land and their food was canned;
So they got no vitamin C.
For "Devils the use of orange juice",
The skipper 'ad said; said he,
"They were victualled with pickled pork, my dears,
These mariners bold and free,
Yet lifes but brief on the best corned beef,
If you don't get vitamin C".

The epiphyses of Jemimah's knees,
Were a truly appaling sight,
For the rickets strikes whom it jolly well likes,
If the vitamin D's not right,
Though its plots we foil with our cod liver oil,
Or our ulta-violet light.
So swallow your cod liver oil, my dears
And bonny big babes you'll be,
Though it makes you sick, its a cure for the rickets
And leeming with vitamin D.

Now vitamins D and A, Band C,
Will ensure that you're happy and strong,
But that's no use, your must reproduce
Or the race won't last for long.
So vitamin E is the stuff for me
And it praises end my song.
We'll double the birthrate yet, my dears,
If we all eat vitamin E
We can blast the hopes of Maria Stopes,
By taking it with our tea.



Basically you need to aim for a well balanced diet which will provide about 4,000 calories a day. I have published a DAILY RATION FOR TWO in the Appendix.

There are several ways of carrying your food. Some prefer to list their menu and then buy the appropriate food, remove excess packing, waterproof and pack in kayak. Others will carefully prepare their rations into daily food packs with each meal labelled. The small clear polythene bags which are self-sealing are ideal. Best not to rely on them being totally waterproof by packing them in your kayak so they are within adequately proofed bags in such a way that the food required at the end of the expedition is stuffed in first so that it remains in place until required. There will be food containers required most days such as sugar, jams, coffee, herbs, spices, salt, fresh milk. Unless you are prepared to bake en route or can buy fresh as you go, bread is one item you will miss after a few days. PILOT BREAD or HEALTHY LIFE BISCUITS are a substitute. You should be able to carry sufficient food for 4 to 6 weeks given that you can at least find fuel and water en route. One tip is to make best use of any abundant supplies of these two commodities by carrying some onto the next camp site, just in case, water being particularly important.

(4). FOOD FROM SEA AND SHORE.

Let me take a brief look at what might be available to us as we paddle along on the British Coast. Sea water, given that it is not too polluted, can be diluted with fresh water and used to cook vegetables and spaghetti. I use one part sea water to two parts fresh. I only do this in waters off Northern Scotland. Our coastal waters are otherwise appaling and I would not even heat up tinned food in it.

The obvious commodity available free, when sea kayaking, is of course fish. Do not rely on it being available. I nearly always take a fishing trip after the evening meal and if I am lucky, then we have fresh fish for breakfast, otherwise it is the museli again!! Martin Meling (Ex-Chairman of the B.C.U. Sea Touring Committee) has made an interest of fishing from his kayak and he says success depend on three factors:-

(i) the right gear
(ii) the right place and
(iii) the right time of year.

Certainly, in Alaska, we caught magnificent salmon from the Copper River by just placing a net in the water and in Norway it was as simple as letting down a hand line with a lure such as a feather in order to be rewarded with huge cod. Cooked very soon on capture, preferably wrapped in aluminium foil, with a little butter and black pepper -wonderful!! Just place on the embers, covering with other hot embers so the fish is cooked slowly. Try the same recipe using lemon juice and mixed herbs or Rosemary.

I love fresh mussels. Scraped from the rocks, once confident they are not toxic and then soaked in fresh water over night to be boiled for 20 minutes until the shells separate, they make fine eating when laced with garlic butter. All the better if you can drop a measure of white sauce, a skinned onion and a clove of garlic into the cooking water. Mussels should be gathered from below the low water mark, if possible. They have been collected and eaten on the shore since the Stone Age. If actually eaten on the rocks they are delicious roasted on stones made hot in a fire, as soon as a shell opens a piece of butter is put in and the mussel tipped straight into your mouth when cool enough.

I know this is not a cook book but I cannot resist telling you of one of my favourite ways of using mussels. It is called Mussels in Murphy. Bake a large potato in its skin. Remove the ends and scoop out the insides and mix with butter and seasoning. Replace some of this in the potato together with well seasoned mussels about a dozen per potato. Finally replace the end of the potato and bake in aluminium foil for about five minutes. A rare treat.

You may just come across a crab big enough to cook and eat. At low tide they can be found in tide pools

buried in sand or hiding under seaweed. Boil up a pan of sea water and plunge in hapless crab for 15 minutes before soaking in cold fresh water for a couple of minutes to cool it and permit removal of the tasty meat from the shell. There are other edible crustacean like lobster, prawns, clams, etc. that are worth knowing about.

As for seaweeds, many are edible but there are two that are particularly good; laver weed and samphire. Laver weed has thin, translucent purple fronds and grows on rocks along the breach. Cook by soaking overnight, a few hours at least, in fresh water, dry in the sun, powder and then boil for four hours keeping the water topped up. Drain it, dry it and you have laver bread. Eat it with bacon for breakfast.

The other and even more valuable seaweed is samphire. In fact it is not a true seaweed. It looks like a miniature cactus growing beneath high tide mark and, given it is free of pollution, it is fit to eat raw. It can be boiled and served like asparagus with butter. But if you eat it this way first draw the flesh off between your teeth leaving the rough fibres behind. Some of the more delicate seaweeds such as sea lettuce and dulce can be treated like laver weed.

The sea plantain grows well back on the beach and in summer its tender new leaves are a compliment to a salad. The larger leaves can be used as a vegetable by boiling up. You will recognise it by its cluster of leaves rising from the bottom of the plant bearing a stem in the middle ending in a greenish white rather dense flower head.

(5). FOOD FROM SUPERMARKET.

It should go without saying that you should prepare a menu and then from this a shopping list. If you are to be in charge of rations then make it clear you will make the choices. Seems fair to me. Alternatively each can cater for him or herself or even in small groups. This final solution is often best and is one that still demands a 'catering manager'. Recently, whilst en route to our expedition area we called into a huge supermarket. We all had a say in what was purchased and consequently had a job cramming it ail into our kayaks. We eat like stuffed pigs and so we should when I remember how many dollars we shelled out at the cash out.

Back to our list. Use a few headings such as breakfast, lunch, main meal, drinks, and general items such as butter, powdered milk, seasoning, flour, pancake mix, herbs, spices (curry powder can perk up an otherwise dull, -or dare I say it, badly cooked meal, but do not over do it as remember you will be sat secure in your kayak before long!), jams, etc. You will find a list of suitable menus among the appendices.

Do not forget two other headings, viz. emergency rations and luxury foods/drink. GORP (Good Old Raisins and Peanuts) makes an excellent emergency as well as luxury ration. Visit your local health shop and select a handful of whatever is on offer, -dried fruits, nuts of various varieties, etc. Mix with Smarties (M & Ms) and you will bombard your taste buds with delights whilst taking in plenty of calories.

I usually include some Stilton cheese and bottle of Port if I have room (and wallet) for any luxury, -do you a swap for a glass (or rather plastic mug) of your whisky. A camp fire blazing whilst so inhibiting with the light fading and the sea lapping on the shore. Mind you it need not be so Utopian. The 'mossies' may well be out in force, the camp fire smoke in your eyes and someone has sat on your Stilton!

And who is going to cook. I love the story of the group of three sailors marooned long term on a desert island who took turns. But this led to quarells so one volunteered on the proviso that no-one complained. Of course no-one did so our volunteer progressively rubbished the food until one day he served sh**. "Hey this is sh**" said one, but in a flash added "Though its' nicely cooked!!"

SOURDOUGH

Used by wilderness campers in the States and rather neglected in this country. Sourdough is nothing more than a starter for making bread, biscuits, pancakes, etc. That is, it is a dough like substance which gathers to it wild yeast from the air. There are several ways of making sourdough. I use a potato, (1) water (2 cups) sugar (3 tablespoons) flour (21 cups).

Scrub the potato, cut it into small squares. Boil slowly until the squares are soft. When cool, mash well discarding the potato skin. Add water to make up to two cups. Stir in 2 of the tablespoons of sugar and slowly add 2 cups of flour, mixing well. Place mixture in a glass jar covered by loosely fitting aluminium foil and leave for several days. Add the remainder of the sugar and flour so it is well mixed. Finally, add water to give a thick batter.

When carrying sourdough in your kayak ensure it does not expand to contaminate the rest of your gear. This is not the place to describe the many recipes for cakes, bread, and biscuits. You will find an interesting variety, all readily cooked on your camp fire or make shift oven in Linda Daniels' book KAYAK COOKERY (see my bibliography at end of this book).

4. LAND BASED ACTIVITIES

Given that you are not tented in for several days due to bad weather and given that you have not set yourself a light schedule in terms of distance you must cover within a finite period, you should have days to spare to explore inland. Be prepared for whatever terrain you are going into. Sounds obvious, but tramping several miles through rough country wearing typical kayaking gear including light footwear is not a good idea.

Should you go off walking and climbing in remote areas then do consider what difficulties will ensure should any of you have an accident. A badly cut thumb caused by a slip among the rocks whilst in Arctic Norway was a problem next day when we returned to our kayaks and the paddling; and lifting a casualty out of inhospitable countries where access is only by water can be both difficult and expensive. In other words, all your safety precautions duly considered when kayaking are just as important when on land whether simply camping or walking out.

Whilst, paddelling around Surprise Glacier Alaska with a friend, a lawyer from Anchorage who was a keen climber we took off for a day in the hills. In an attempt to gain high ground quickly and avoid heavy scrub, we, more precisely my lawyer friend, decided to take a route which appeared pretty horrendous to me. Up I went, confidant my partner knew what he was doing whilst warning him of my own ineptitude when climbing a stair case. Soon I was stuck, unable to go further, terrified of trying to return, a vice-like grip on a sapling with its own hold on the sparse rock less than tenuous - I was not happy and can recall the next hour or so as I eventually eased my way down step by step in vivid detail. The lesson is simple, -know what you are doing, be fully equipped and stay safe.

Whilst on the subject of land based activities let me briefly say something about science projects. Several expeditions, prior to going off to remote places, are now contacting various academic institutions and organisations offering to collect scientific data. Often no particular skill or qualification is necessary and some meaningful scientific research or data collecting adds another dimension as well as a certain credibility to your expedition. Sea kayaking offers ideal opportunities for photography bird watching life science exploration and discovery.

Take a sea kayak trip with a geologist and suddenly those rocks and cliff formation once explained, take on a whole new meaning. I used to paddle with a good friend Graham Edwards. Graham was a gifted teacher whose knowledge of ecology, wildlife and the environment was endless and the satisfaction I enjoyed from being in his company as he quickly enthused about a fungus he had discovered or a plant he recognised was similarly endless. Always added a wider dimension to every trip we did together.

A final word about being weathered in. First be prepared for it, by having reading and writing material, pack of cards or a small musical instrument with you. A few hours inside a tent can be quite tedious. A few days can be purgatory. Second be prepared to stay land bound should conditions dictate. We all have stories of long crossings completed, in atrocious conditions because we felt obligated to return to base.

On a longish expedition I prefer to get within easy reach of our final destination with a few days to spare. It is always easy to use these days effectively enough in the knowledge that the weather is less likely to force you to take unnecessary risks.

TO SUMMARISE- HERE ARE TEN STEPS TO SUCCESS WHEN PLANNING YOUR EXPEDITION

1 CHOOSE A REALISTIC OBJECTIVE

According to the Royal Geographical Society it is important for aspiring explorers to define exactly what it is they want to do. The key is to find a project that you are excited and inspired by. When you have chosen your objective, you should consider carrying out a reconnaissance of the region a few months before the main expedition sets out to ensure your plans are feasible.

2 PICK A COMPATIBLE, COOPERATIVE TEAM

Choose your team with care. You are far more likely to succeed in your objectives with compatible team members who are willing to work together to achieve the agreed objective than if your team is made up of highly qualified or talented individuals who are riven by dissent and in-fighting.

3 SECURE PERMISSIONS AND QUALIFICATIONS

Kayakers require permits for politically sensitive regions, scientists will normally need permission (often at government level) to carry out research, and if the team isn't taking a medical doctor, then many grants require a member to have attended an appropriate first-aid course. But it takes time and effort to secure permits and qualifications, so try to address these issues as soon as the objective has been agreed.

4 SET OUT A REALISTIC BUDGET

Choosing an affordable objective will make it more likely that your expedition will take place. Money can be raised from sponsorship, grants, local fundraising, or taking on an extra part- time job. It's always a good idea to add a contingency of around ten to 20 per cent to your overall budget because problems that require a dollop of cash to solve will invariably crop up. Don't be discouraged if you are dependent on securing a large amount of money. Just keep going. At some point it will break.

5 APPLY FOR GRANTS ON TIME

Dozens of bodies, from the Mount Everest Foundation to the Winston Churchill Memorial Trust, award thousands of grants to individuals and expeditions every year. But according to the grants officer at the RGS, many expeditions miss out on grants because they either miss the deadline or don't meet all of the criteria. Ensure you supply a map of the area you want to visit.

6 LIAISE WITH PEOPLE IN THE HOST COUNTRY

Working alongside local people is a fundamental part of many expeditions. Indeed, it's becoming a prerequisite of many grants either that people living in the host country are included as part of the team or that the results of the project directly benefit the local people. The RGS asks for host-country collaboration and a supporting letter from someone in the field, and these can take a lot of time to secure. Although working with people in host countries can help you to avoid potential problems. You can never take anything for granted. If you are organising anything with local people, you have to make sure that what is promised actually turns up.

7 DRAW UP A RISK ASSESSMENT

The safety of your team doesn't begin and end with a comprehensive insurance policy. What can be done to minimise danger? How would an injured person be evacuated? What standard of medical care is available in the host country? A regularly updated risk assessment can be the most important part of any expedition. It might reveal skills deficiencies, such as the ability to cross a river or drive a vehicle across difficult terrain. Allow enough time and money to acquire the necessary expertise.

8 FOCUS ON DETAILED LOGISTICS

Transport, food, equipment and re- supply are all easier to organise if you know exactly what you need. If you know what you are going to do when you are in the field, then the logistics are more likely to fall into place. Drawing up an environmental impact assessment at an early stage can also help with logistics. For example, removing unnecessary packaging before departure can reduce the weight and bulk of loads. You will also have less rubbish to transport to a refuse centre (or back home if facilities don't exist in the host country).

9 CONSIDER YOUR COMMITMENTS

After the expedition, important tasks such as writing the report, delivering lectures and honouring promises to sponsors will need to be addressed. By dividing up these responsibilities before departure, individual members might even be able to start tackling this work during the expedition, so that life will be easier upon their return.

10 SKETCH OUT AN ACHIEVABLE TIMELINE

The RGS Expeditions and Fieldwork Division is keen to remind budding explorers that all of the above takes time to accomplish. A worthwhile expedition by a committed team takes more than a year to plan, three months to do, and more than a year to write-up. So you have to be really committed to wanting to do that fieldwork.

Before closing Part 2 of this Chapter 4 on the actual undertaking of kayaking expeditions I thought I would include a 'booklet' *what I wrote* for Raleigh International as my post expedition report for them in 2002. I called it

TOP TIPS FOR FOR SEA KAYAKERS

INTRODUCTION

Above all other adventure activities, in my view sea -kayaking expeditions are by far the most demanding. Kayaking along a hostile coast presenting few opportunities for egress or kayaking across a fairly long stretch of open water leaves little in the way of escape routes should the wind and waves decide to harass you and your group.

Prolonged wet weather can test the most experienced expedition paddler when it comes to maintaining personal comfort. No dry clothes, a wet sleeping bag, a leaking tent, any of these can cause acute discomfort at best, hypothermia at worst.

Leading a group of enthusiastic but inexperienced young people -or even old people for that matter -in calm, dry weather is great fun. On the other hand, being 'sucked in' to a beach for several days due to adverse weather or being caught on the water by capsize inducing squalls can call upon strengths and skills not everyone can muster.

The very effort required to crawl out of the relative warmth of your sleeping bag where you are dying of boredom to prepare food over a camp fire that gives off more smoke than it does heat, under a tarpaulin threatening to do a 'Mary Poppins' across the beach can call upon every ounce of will power.

Staying dry under these circumstances becomes almost an obsession. There is also the danger inherent in attempting to leave these circumstances prematurely to 'escape' the beach. I did this on one particular occasion. I convinced myself that the weather had abated.

Indeed it had, but the sea had not and we had a mini epic as we fought to get back to our beach.

I make no apology for painting a somewhat bleak picture. It can happen and you and your group should be prepared for it. On the other hand, the weather always changes and at last the sun will shine and the gales will abate. You will get all your gear dry and the whole world lights up and is a much better place. I believe that one good day is worth several bad and even heavy rain does not detract from the kayaking. I always tell a group new to sea kayaking that such an activity is basically dry and comfortable. As Henry Thoroux, the French philosopher and traveller said,

"Any fool can be uncomfortable".

Use appropriate gear in the appropriate way and you will all stay relatively comfortable, even during prolonged adverse weather.

This booklet is not going to describe gear and its' use. You will probably have this information in your head. It is certainly well described elsewhere.

BRIEFINGS

After all your own preparation you will eventually meet up with your group for the first time.

They will be fired up. Sea Kayaking is always a sought after activity. They will have loads of anticipation and conceptions.

Your task, from the beginning, is to ensure that they do have a realistic view of what lies before them. Certainly do not talk of doom and gloom. There is absolutely no need to; but do make them aware that sea kayaking along a potentially hostile coast can be very demanding.

My view is that safety of the group insists that you as Leader remain in absolute control at all times.

Though you can introduce some democracy and have appointed 'Day Leaders' from among the Venturers, is very important that you lay down the ground rules and insist they are adhered to. After a few days these 'rules' become second nature and will require little enforcing.

For example I insist that once a meal is over the dish and utensils are cleaned immediately. There is nothing worse than dirty mess tins left lying around the kitchen area to gather bugs and/or be washed away by the over night high tide. This may seem a minor issue but hopefully it paints the bigger picture for you. I think you should start as you mean to go on. This way all the team members will pull together, undertake their allotted tasks and ensure the comfort and well being of the whole group to everyone's' satisfaction.

The fair share of work such as collecting firewood, water, cooking, etc must not only be achieved but be seen to be fair. I do not, for example, allow tasks to be swapped around by agreement between Venturers. You are never sure what coercion has gone on behind the scenes, apart from which the experience for all should be the same.

Be aware that most of the Venturers have not been away from home before. They have been used to food being laid before them on a table and their clothes laundered; a bed to lay on and the security of a home.

For the first time they will have to fend for themselves in terms of day to day survival and their own health and hygiene in an environment totally alien to them and for a three week period.

Probably you, yourself, did not have such an introduction to ocean kayaking!

So once you have made it clear that you intend to be in control and you have explained how demanding a sea kayaking expedition can be -without scaring the pants off everyone - you will need to explain that 'ground rules' will be described and enforced for the benefit of all. It is always a lot easier to back off when all is apparently going well than it is to try and re-coup some discipline once into the expedition.

Many of these ground rules are described in this text and how much you determine to share at an initial briefing is clearly a matter for you. I tend to share it all at an early stage. They will want to know about the kayaks and the equipment. How are the tasks to be allocated, what are the tasks. What sort of rations will be issued.

They will certainly want to know what personal kit they are expected to take, how this is to be protected and how is it to be stashed in the kayak.

I suggest you have to hand a list to either write on the board or to hand out to each individual. Later you will need to check it is all being carried.

If time is short, have each Venturer check each others. Do not leave too much to chance. One set of clothing is not going to suffice a wet and cold phase without causing a lot of discomfort and then inconvenience. I always carry two sets of emergency clothes and I have not gone a phase without having to resort to loaning out at least one set.

TRAINING

A Lot of training is provided at the insistence of Raleigh. You will be covering radio use and procedure, health and hygiene, social and youth development, report writing, group dynamics, etc. etc.

None the less you should find time to at least introduce some or all of the following at Raleigh Field Base before setting off with the kayaks.

>Some basic camp craft such as tent erection, setting and lighting a fire, building 'bivvies' or makeshift shelters using tarpaulins. (You may have to overnight in the bush on narrow beaches with a high nocturnal spring tide due -and it is worth noting that sometimes the night time tides are higher than the daytime ones, why? -I don't know).

>How and where to build a 'long drop', where to wash and where to collect water for drinking from local streams. The more you can get across at an early stage the less you will have to instruct once underway.

>Care of equipment, particularly the kayaks.

>Use of equipment such as paddles, rudders, buoyancy jackets, hatches, dry bags. All obvious enough to you but a whole new scene for your Venturers.

>How to pack a kayak, -e.g., first in a hatch means last out so keep essentials handy.

>How to keep a camera dry. How to use dry bags, buoyancy jackets, etc. etc

There will be a lot to instruct; a lot for the Venturers to take in, so keep it short and relevant. Do not spend hours on discussing the forward paddling technique. The best way is often allow hands on in that a few minutes paddling about in the bay, given that the fundamentals have

been explained, will often be sufficient.

Expedition Members

You will have no persuasion over the selection of venturers. With some organisations, and Raleigh International is a prime example, you will have no part in the selection of your fellow kayak leaders.

I have to say that this arrangement can be a lottery. Get on with your co-leaders and all is well; have serious differences regarding how the expedition will be managed and there could well be difficulties. This is even more reason why the Project Manager (as selected by Raleigh) should ensure he or she is clearly 'in charge' from the onset.

I might be making this ‘in charge’ thing appear as though I am a control freak. There is a balance between making sure that the expedition is safe and reasonably well run yet letting the Venturers get on with it. It is, after all, their exped. and they want to experience it in the full sense of the word.

At the same time you should be prepared to listen and act upon sound advice. Once your co-leaders discover that you are intransigent, then they will let you simply get on with it and you can then only expect 'mechanical support'.

It is a fine balancing act as, at the end of the day, the final decisions - particularly when there is safety at stake - has to be the Project Managers.

So enough about control but be aware that a Raleigh Expedition can test leaders as much as it tests the Venturers.

Moving to the Venturers themselves. You will probably have a mixed bunch in terms of gender, ability, attitude and enthusiasm.

You will want to please all the people all the time and this cannot be achieved. Consequently you make it clear that you will always be considering the majority -when leading the expedition. The speed on the water will be that of the slowest kayak (though you can mix and match paddling partners to address the problem of a particularly slow kayak). You will not be stopping the whole group every time someone wants a pee or wants to don a cag.

Stops on the water should be for everyone and should be scheduled. Of course this 'rule' should be tempered with some common sense.

There is nothing like a well run sea kayak expedition to discourage selfishness and encourage group cohesion. Is this not what a Raleigh experience should achieve? I think so.

A lot can depend on what objectives you and your group have set and a lot will depend on the prevailing weather. If the weather remains good and you have fairly undemanding objectives, then why worry about how fast you go and how many rest days you have.

On the other hand you may have determined to achieve a goal and the weather demands you make best speed. I can tell you that the expedition that makes the most demands on the Venturers will be the one they get the most of. It is the case that at the time they will opt for the easy option. It is only post-expedition that they will regret not having made the most of the opportunity. I guess this is human nature.

On one Raleigh kayaking phase I was set the objective of getting to the Laguna San Rafael from Chacabuco. This meant being on the water by 1000 hrs and off at about 1700 hrs with breaks for lunch and rest periods. It meant every day was a paddling day. Of course we started off with care to avoid too many blisters and repetitive strain injuries to wrists, but we not only achieved the Laguna but returned as far as half way back to Chacabuco. We had mixed weather to contend with. There was certainly a feeling of something achieved when we arrived at Porto Bonito where we were collected by a fishing boat.

Because the scene was well set and expectations raised there was not one complaint. Without too much strain, we did it. Great fun

I do not tell this story to show how much we accomplished but to illustrate how, given the weather, your expedition can cover a lot of the area. I can tell you that, at the time, your Venturers will be happy to lie in and drag out breakfast and spend ages packing their kayaks.

They will want frequent stops on the water and will be happy to find a camp site early afternoon.Of course not all will have this mentality. Only once the expedition is over and they feel they have really achieved something will they thank you for keeping up the momentum. For many of your charges this will be once in a life time experience so give them something to look back on.

RULES

On the basis that rules are meant for guidance, I offer the following list.

1. Never drink yellow snow

2. Draw up an expedition check list

3. Ensure all exped. members have their own check list of essential gear and have it checked before departure.

4. Always place paddle in the cockpit of kayak when it is not in use. Make a habit of this. You can be sure it will be simply discarded on the beach ready for someone's' size 9 boots.

5. Place buoyancy jacket and spray decks in the kayak cockpit when not in use. Again if just discarded on the beach they will likely be washed away by high tide.

6. Never stress gear. Do not encourage a furious paddle up the beach. Do not suggest paddles are used to balance the kayak whilst entering or leaving the cockpit. Do not allow sitting on the kayaks. This may sound petty but is about encouraging a mind set about care of equipment, both personal as well as communal.

7. Have strong straps available to place under the kayaks to assist with lifting them clear of high tide. Have at least 8 per double kayak and insist on straight backs and bent knees. *'Bend zee kneees'*

8. Have plenty of dry clothing. I take three sets. The last set is a warm track suit which is only used in an emergency. I have loaned it out on every sea kayaking phase to date.

9. Tents. The large 3 person dome (Wild Country) tents are not suitable in that they demand space when some beaches do not always oblige, the poles break as they are not designed to be erected and dismantled every day and they are heavy and bulky. I have suggested

small 2 person tents, i.e. one tent per Aleut Sea II. There are many suitable designs on the market.

10. Never venture anywhere without a decent Bivvy Bag. It is always the last resort. Be able to use one with a decent improvised shelter using trees, kayaks, paddles, rocks.

11 When kayaking maintain a fairly tight group. Appoint a leader and a 'tail end Charlie'. No one ventures in front of leader or behind Charlie. As leaders I suggest a position near the back of the group where you can observe the whole group. This arrangement can be tire some for the stronger paddler but stick to it as it surprising just how rapidly a group can disperse - and you can be sure they will be all over the place just when you need to communicate to the whole group, e.g. to stop for a break or deal with a situation.

12. Always have a leader on the water when ever there is a Venturer on the water. Some discretion can be applied such as fishing out in the bay whilst camping but ensure there is always someone on shore charged with keeping a close eye.

13. Always, always, buoyancy jackets to be worn, and this applies to leaders. Shoving yours under the deck elastics during warm weather is not on.

14. At least three sets of split paddles per group should be carried on decks for emergency use.

15. Ensure your repair kit is relevant to the kayaks being used. Have a decent 'Leatherman' tool knife. They are invaluable.

CAMP CRAFT

Your Venturers are not going to be experienced 'back- woods men (or women)'. Surviving on a remote beach in adverse weather, even if you are carrying all the right gear, is not easy. They, like you and me for the first time those years ago, will have come from comfortable homes where food is placed on the table, there is a toilet to be comfortable on and there is always clean under- wear in the cupboard, (well, nearly always!)

Now they having to erect shelters, cook on wood fires (when they can get them to light) whilst staying relatively dry and warm.

For the first few days you will have a lot to teach them and they will be keen to learn when they understand that they will be under-taking the chores themselves and their well-being depends on it.

Here are some more RULES.

1. Do not allow the same people to rush each evening up to the best camp site and 'bags' it.
2. Always clean mess tins immediately after dining.

3. Keep a clean and tide kitchen area.

4. All major tasks should be shared out on a rota basis. I suggest .....
   (a) Day Leader (appointed mid day to mid day)
   (b) Cook
   (c) Wood collector
   (d) Water collector
   (e) Radio Operator
   (f) Long Drop builder

You may decide to have a deputy/assistant to each of the above posts so that he/she takes over the function the following day.

5. Before sorting the rations out as handed to your group before you leave Field Base, try and select a 'likely venturer' to be your rations co-ordinator. He or she will retain this role throughout the whole phase and will know who is carrying what and what menus are scheduled, etc. I firmly recommend this suggestion. It has always worked for me. Much depends on selecting the best individual for this task.

6. The cook always clean the cooking pots. This way they will avoid burning the pots by constant stirring -also prevents burnt food. (Demonstrate the use of sand and shingle to clean stubborn pans).

7. The cook should take kindling wood to his/her tent the night before to ensure dry wood for the break fast fire.

8. Do not make a ring of rocks for the fire place but instead place two rows of rocks with an open end facing the prevailing wind. This allows for adequate draught. If the wind is too strong, then place rocks at the windward end. Be ready with a 'wafter'* to encourage the fire in calm conditions. I have never used billy cans as mess tins. I use melamine plates which are easy to clean and make an excellent 'wafter'.* I mean, just how often do you cook with your mess tin?!

9. Carry a metal grid on which to place pans when cooking.

10. Have plenty of fire wood available before cooking. Adding fuel during cooking keeps the fire going as well as allowing for some cooling as the food comes to the boil.

11. Lighting a fire in wet conditions is made somewhat easier if done under a tarpaulin. You should not need firelighters but have some in your kayak for emergency use. Using small, fine twigs gathered -from bushes in the forest which are well off the ground and having small twigs and then slightly larger twigs available as the initial twigs burst into flame (as they should in

theory!) should get your fire up and away. Raleigh will supply floor polish -which is spirit based -but I prefer to avoid using this.

12. Porridge constitutes the main breakfast meal. The ratio is 1 oats to 2 1/2 water. I add a little sugar and two packets of powdered milk per full packet of oats. Soaking this mixture over night softens the oats and reduces cooking time. It is less to to do in the morning. Consider spicing up the porridge with raisins or Milo but bow to the taste of others.

13. When making any addition to food using spices particularly hot ones, or indeed any ingredients, consider that this will not be to everyone's taste. Let individuals add their own when possible, or at least discuss with the group before being too adventurous.

** wafter is an instrument to 'waft' air into a 'lazy' fire. I have patented this word, please do not use it.!!*

14. Make it the function of the Cook to ensure all have been fed. It is easy for someone to nod off in their tent or be off fishing and be overlooked.

15. Agree that everyone walking across the beach for what ever reason uses the opportunity to bring some wood to the fire as they return.

16. Carry lemon juice and tin foil for cooking fish. Know how to gut and clean fish.

17. Not all will be effective cooks and I usually keep an eye on the cooking myself. Nothing worse than a ruined meal when all are hungry. Otherwise resist interfering as the cooks embark on their 'learning curve'.

18. Freeze dried food is OK for short periods but in my view should be supplemented by 'boil in the bag'. These meals are always useful when fresh water is in short supply as can be cooked in sea water. They require less cooking time, hence less wood and provide a substantial meal. They can always be kept by for use on difficult camp sites during bad weather.

19. Water. Most camp sites bordering high ground will have abundant fresh water. If you are using an island then take fresh water with you. You will be encouraged to use Puritabs and/or boil the water.

Once I know that there is nothing wrong with the local water, for example, danger of Giardia Lamblia, then I drink it straight from the streams , so long as it fairly fast flowing and is not contaminated by the washing of bodies, dishes or clothes. I do use a water filter for direct drinking water as opposed to cooking water. This removes a lot of the solids which gives the

kidneys less work to do. Got to look after the kidneys.

I have to admit that this is not the advice you will get from the Medics and I am not a medic, well not now anyway. But I do not like my water to taste as though it has just come straight from the swimming baths!

ON THE WATER TRAINING

At last you and your group are on the beach together with all the gear, food and kayaks. This is the first time that many Venturers will have encountered a kayak and even you may not have come across a real life double sea kayak.

You are not all going to pack kayaks and away before ensuring that all members of your group have at least some idea of how to paddle them forwards, backwards and sideways.

Then you will be getting the group to raft up as this may be the position you wish to adopt if the proverbial hits the fan.

Once you are reasonably confident that all can at least basically control their kayak, and this should not take long as they gingerly steer around the bay, you can move on to capsize and re-entry drills. For many this will be the 'moment of truth'. Do you remember your first voluntary capsize. I bet it was in a warm swimming pool and not out in southern Chilean waters.

First get a good fire going on the beach and a pan of hot water for drinks.

Explain the procedure. Then with the leaders in their singles, take a double out into deep water and have it capsize ensuring that the spray decks are securely in position with the pull tabs properly exposed. Each paddler makes a 'clean exit', retains their paddle and loosely hangs on to the bow and stern of their up-turned kayak, making no effort to right it. Emphasis this as when a capsize occurs in anger they will nearly always want to right it.

A single kayak comes along side the upturned double with the other single coming along side it to form a stable platform. The double is then righted and if there has been a clean exit the paddlers in the water can immediately clamber back in before using the hand pumps (which should be attached to their kayak ready for use) to pump out the water from the cockpit. Then it is back to to the beach, dry clothes and a hot drink. You should have discussed a few contingencies for dealing with an emergency. These should include some basic communication signals such as paddle held horizontally in the air means stop. Keep these simple.

WEATHER

You will be in contact with Raleigh Field Base twice a day. Arrange for them to receive and interpret a synoptic weather map as forecast for the Chilean Navy and then pass on the information to you.

With this and your own forecasting skill using local weather signs you should be able to forecast at least the short term weather pattern in terms of its' stability or unstability.

A barometer showing the trend over at least twelve hours should be carried. I think the ETrex GPS hand held gives a six hour trend. This is better than nothing.
Clearly the biggest problem is always going to be wind. You will have plenty of shelter from mountains and headlands but be prepared for a sudden increase as you and your group move from the lee of a mountain as you cross a channel down which the wind is funnelling.

Here you will find that the long fetch has kicked up the waves.

This can be a problem if the wind and waves come from behind and you are all surfing before the elements. Great fun getting an assisted ride unless it all becomes a bit much and a capsize (or two) ensues.

Apparently the southern Chilean islands have a 60% rainfall which gives you plenty of fresh water streams and with it abundant wild life as fresh and sea water mix.

NAVIGATION

Good charts are available.
The I**SLA GUAFO A GOLFO DE PENAS** with a scale of 1 : 500000 protected by a good water proof map case is good. Have some photocopies done and laminate them for issue to the Venturers. They should know where they are going. It is their expedition.

The tide range is modest but be aware of rising spring tides as you settle down for the night. Tidal flow is not usually an issue except where the channel narrows substantially and there is clearly a large amount of water to pass as the tide ebbs and flows. Here it will be running like a fast stream and making way against it may not be possible.

Finding your way among the islands is not difficult. Sometimes the many small islands bunched together can cause some disorientation but keeping your eye on the major mountain groups on the larger islands and using transits, a good compass (remember the variation in this area exceeds double figures) and even a hand held GPS all helps. The trick is being able to judge distances, particularly as the light changes the colours of the surrounding islands.

There are usually good land marks and you should have little difficulty.

CAMP SITES

These usually show up when you need them which is good news. Look for indentations along the coast as shown on the chart. These often mean bays and suitable sites. Ideally you need tent sites, a stream and firewood.

Not all sites are as good as they appear from the kayak. Always be prepared to explore the beach before making a final decision. This can be a frustrating time as all the venturers want to do is clamber out of their kayaks, stretch their legs and have a pee. But it is worth getting as good a site as you can. You can tell when one is not suitable. Occasionally you may have no choice in that you go for what is available and end up having to bivvy in the forest to avoid high tide. Remember that nocturnal tides sometimes come somewhat higher than day time ones

NIGHT PADDLING

I have included this paragraph as there is a real fascination with paddling at night. It is quite surreal experience as you enjoy the phosphorescence spilling off your paddles and the myriad of stars as bright as ever you will see them again.

The best way, without a doubt, is to plan to paddle as dawn comes up. To do this arrange that all kayaks are packed and ready to go the evening before and everyone bivvies out in their kayaking clobber.

At the appointed time, say 0300 hrs, water proofs are donned and kayaks are launched.

Once this is achieved make sure that head lights are NOT used again as they do not assist with night vision

Each kayak is given a number and is asked to call it out in turn at periodic intervals once underway.

The leader should have one of those Chemical Light Sticks attached to the back of his hat and all the group has to do is keep this within sight. Again group control is of the essence.

Only undertake such a trip if the weather is clearly stable and you are confident about the route you intend to follow. As the dawn comes up and brings the sun above the mountains and you can make out the outline of land more clearly and all you have to concern yourself with is making sure the porridge is not burnt as you gather round for breakfast, there is a great feeling of elation.

But do take care. I have experienced a bad night paddling trip. Everything seemed right but as we reached some open water, squalls came from nowhere and it was still very dark. There lies a tale. Just do not take risks even if you are under pressure to give the group a night paddling experience.

Once you mention the possibility of a night paddle you will be under pressure from the group to give it a go. I find it best to keep the idea to myself and only when I feel the conditions are coming right do I suggest we go for a night paddle.

BEACH SAUNA

These are great fun. They get you well and truly cleansed and can take up a day when the weather dictates you stay land bound.

You need a sandy beach, plenty of fire wood, some large to medium sized rocks, a tarpaulin and a shovel.
Once the fire is going well, roll on the rocks. Whilst they are heating dig a large hole in the sand, big enough for the group -or at least most of them - to sit around the edge within the hole itself. Of course all this will take some time, but who's rushing!

Drape a tarp. over the hole, sealing down the edges with and roll the hot rocks into the middle of the hole. Once under the tarp. and sitting comfortably, sprinkle water on the rocks and you have a first rate sauna.

SUMMARY

I could go on -and on. I hope you have found these notes useful.

There is no need to 're-invent the wheel'. I am happy to share some Top Tips that occur to me as I think back to my own experiences leading groups along some fantastic coasts as we watched whales, sea lion colonies, eagles,otter, etc. etc. give a show that even Walt Disney could never replicate.

HAPPY PADDLING

CHAPTER FOUR
PART 3

EXPEDITIONS BY-SEA KAYAK

SAFETY

I am going to cover a whole variety of subjects under this heading which are directly related to safety in sea kayaking. I need to point out the obvious that every other chapter in this book has a lot to say about, safety. To be safe in any pursuit is to be aware of the dangers and then constantly work to avoid them. We will never make sea kayaking so safe that it no longer holds any excitement, challenge or adventure. This being the case we need to learn from the experience of those who have gone before us. The early merchant traders, explorers and marauders, the natives who first put a log on the water or a coracle or a kayak on the sea, -these were the pioneers that we have learned from, lessons that have been passed on down through the ages. This explains the interest that many sea kayakers have in Eskimo history, fortunately a fair amount has been written about them; notable authors being FRIDTJOF NANSEN, PETER FREUCHEN, RAYMOND DE COCCOLA. I particularly recommend "THE INCREDIBLE ESKIMO" by De Coccola and Paul King. Details of such books will be found in the bibliography at the end of this book.

Good kayaking technique and knowledge of the many subjects surrounding sea kayaking is also fundamental to safety. Weather forecasting, understanding the sea, the art of nagivating and much more is vital to safe sea kayaking. I shall be mentioning the Coastguard Service, first aid measures and safety aids in this chapter.

If you are an absolute beginner reading this, then please do not be daunted. Take it all in your stride and recognise that even after many years of exciting kayaking you will still be learning. You may be asking how you even get started. Years ago finding kindred spirits was a problem; now most canoe clubs have an active sea kayaking section. There are an abundant selection of sea kayaking courses and meet to suit all levels, mostly staffed by members of the British Canoe Union Coaching Scheme -of which more later.

Sea kayaking as a popular activity has come a long way over the last few decades. I can certainly remember calling up the Coastguard to let them know of a simple trip in good conditions only to be strongly advised against such fool-hardiness. Once I had quite a heated discussion with an "old salt' as he wore his HMCG cap. He wanted to know how we could justify putting ourselves in danger whilst expecting others to come out and rescue us once we got into trouble as he truly believed we inevitably would.

The break-through came when a senior member of the Coastguard Service agreed to address one of our early sea kayaking symposiums. His name, now well honoured in the kayaking world, was DICK RICHARDS. He was so taken by our attempts to be professional with our sport and by the enthusiasm of the symposium participants, that he actually bought himself and his son a kayak each soon after the Symposium. What is more, Dick became Treasurer to the B.C.U. Sea Touring Committee and his son Duncan, went on to complete some first rate expeditions by sea kayak. This was indeed a turning point. We were allowed access to the Coastguard Magazine and with Dick's help, we very soon gained credibility with the Coastguard Service which grow stronger with time.

I believe that safe sea kayakers soon develop a 'sixth-sense' that warns them of potential danger. Through experience and learning you begin to cultivate an ability to pick up early signs. It may be that you feel a change in the weather; notice a member of your party is flagging. Avoidance of, rather than actually coping with, incidents is the aim. Two of us were attempting a particularly long crossing.

My friend, very fit and capable, was slowing up after only a few hours. I dropped back to check him out. He assured me all was well. On we went and as we did I found myself forging ahead. Again I dropped back. This time I realised something was wrong. The rear of his kayak was lying deep in the water.

The sea bulkhead was completely flooded. The water had seeped in through the rudder which had been fitted just prior to our journey. Even the hatch was being lapped by water and we were in a "pickle'. A call on the VHF marine radio achieved nothing, even though there were several fishing boats in the vicinity. There was nothing else for it. My mate took a swim and between us we got his kayak over mine, baled out the bulkhead and once aboard we set off this time the way we had come to return to our point of departure.

You will recall how I earlier suggested you stopped half an hour out to study the coast you had just left, in order to take care of this sort eventuality. Cutting a long story short we made land fall and decided that this was sufficient excitement and energy expenditure for one expedition and went home. The lesson is that when I first checked out my friend because he was unaccountably slow, I should have noticed then that something was wrong.

arrival on a Scottish beach

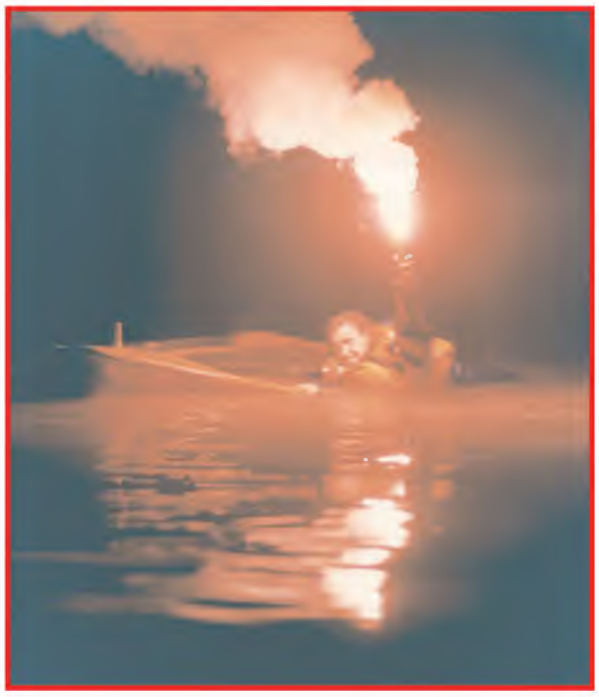
SAFETY EQUIPMENT

1. FLARES

The first message about flares is, ‘do not rely on them’. On a rather well publicised trip across the North Sea we bombarded several passing vessels with flares at close quarters. Short of shooting them through the bridge deck and still they were not spotted. Eventually a channel ferry turned around just as it was about to disappear over the horizon, a deck hand "thought' he had seen a red flare.

The one sighting of a red flare experienced by me took place as I was in the bath! We were staying in a flat on the sea front on the Isle of Wight overlooking the Solent. It was a calm and moonlit night. "I could have sworn that was a red flare" said my wife. I was able to look from the bathroom through the french windows across the lounge and yes, I saw the second flare myself. A 999 call and the rescue services were on their way. It was a genuine emergency. I used my marine radio to follow the action and learned a lady had fallen off a yacht to cause her husband to shoot off red flares. I tell this story to support my statement that says flares should not be relied upon.

The Pains-Wessex Schermuly PINPOINT MK 6 hand held flare is a popular flare. They are sturdy and reasonably protected against the elements. Ignition is by a "twist and strike' action, which can be achieved using one hand whilst the other uses the paddle to help with stability. Place the flare under the armpit, twist to line up the firing mechanism, and strike base of flare on the deck -whoosh -away it goes! Fire it up wind. The instructions say point downwind, but a strong wind will likely blow the signal flat. The parachute flare shoots up to about 300 m when it releases it signal which drifts downwards on a parachute. It should bum for about a. minute and clearly stands a much better chance of being spotted.



Low cloud could prove a problem if the flare bums itself out before emerging below the cloud. Wind too will likely blow the flare fiat if you do not head it upwind.

Pains-Wessex also manufacture a hand held orange smoke signal -the HANDSMOKE MK 2 which is also activated by a twist and stroke action and gives off about a minutes worth of dense smoke. This flare is particularly useful to assist searching craft to home in on you once they are in your vicinity.
Sea Dye, which when released, turns the sea a bright green or orange, is used for the same purpose. A troubled sea will soon disperse the dye so use it when searching craft are likely to benefit most from it.

Finally there are the mini-flares. These come in small, well contained packs of eight with what the manufacturers, Pains-Wessex, call a penjector' or pen-like firing mechanism. A mini-flare will rise about 250 feet and burn for about six seconds. The manufacturers say this flare is visible from 10 miles away at night, half this distance by day. Many paddlers carry this signalling kit permanently attached to their buoyancy jacket.

Mini-flares are now a lot more reliable, but many years ago Derek Hutchinson and I were undertaking a trial of flares when a mini- flare went down not up, missing my foot by inches!! Flares are also much easier to use since the introduction of the twist and strike action to ignite. DCH will also remember the time we were trying to release flares in anger. First we had to remind ourselves of the instructions for igniting, then pull off the top tab to use to strike the button of the flare.

I remember a line of unused but desperately clawed flares in our wake as we endeavoured to light one after the other.

All flares have expiry dates and I strongly suggest you renew them before the date shown, as flares used by sea paddlers tend to get a lot of wear and tear whilst being carried around.

You can let expired flares off on Bonfire Night, (November 5th when we 'celebrate' Guy Forkes) but do not do what I did once and let off a smoke flare. Next morning I was horrified to discover the side of my neighbours house was coloured red!! They were not too enthusiastic about their new colour scheme despite my assurance that the rain would soon wash it away.

2. RADIO AIDS

Without doubt a two-way radio or radio-telephone is one of the most useful safety aids you can carry with you on a serious sea kayaking trip. There is an argument which says that such devices, which can raise specific help so rapidly, can both lull you into a false sense of security and can also induce complacency. I have found little evidence to support either of these concerns, but as more and more paddlers include radio-telephones in their armoury of equipment, it becomes more likely that there will be those who will undertake a difficult trip just because they know help is so readily called up. We must all guard against this, at the same time being prepared, once the 'proverbial does hit the fan' to raise the alarm soon enough and not when it becomes too late. It will remain a matter of common sense and fine judgement.

As sea kayakers we are really only interested in the hand held marine VHF (Very High Frequency) radio-telephones operated on the SIMPLEX operation. This is a method in which transmission is made possible alternately in each direction unlike our telephone at home which enables you to talk and listen simultaneously.

Marine VHF R/Ts are required by the Home Office to be equipped with channels 16 and 6 and it is recommended that you also have channel 67, this one being used for communication between small craft and the coastguard on matters relating to safety.

Channel 67 (155.375 MHz) is an inter-ship channel allocated in the UK to communications relating to small craft safety. The principal coastguard stations are fitted with this channel. To take full advantage of the system of available channels you should choose a set which can use a reasonable number - depending on the intended area of operation. Twelve channels at least is considered a reasonable access. VHF R/Ts can be obtained with up to sixty-seven channels. A modern set employs a technique known as 'Frequency Synthesis' to determine frequencies or channels.

This allows for rapid search facility.

Channel 16 is the safety and calling channel and a 24 hour listening watch is kept on this channel, by coastguard.s and shipping. Channel 6 is the main inter-ship channel -remember if you cannot contact a shore station, the chances are that you may be heard by another ship station who will relay a message for you.

Initially, you will contact the Coastguard on Channel 16 because there is a constant listening watch maintained (and so there is always someone to respond) on this channel. Before transmitting always listen first to ensure that there is no other communication in progress. Apart from distress, urgency or safety communications, calling up on Channel 16 must not exceed one minute.

Before describing the operating procedure of a marine VHF (radio-telephone (R. T.) a word about your licence, or more correctly a RESTRICTED CERTIFICATE OF COMPETENCE IN RADIO-TELEPHONE (VHF ONLY). This certificate states that the holder has passed the examination in Radio-telephony under the 1949 Act regarding Radio Regulations. The examination for the award of the certificate consists of a. written test followed by a practical test of VHF radio-telephone procedure -of which more in a moment. Candidates are required to have a thorough knowledge of distress and safety procedures and a working knowledge of operating procedures as well as the regulations which apply to Marine Band VHF radio-telephony. Application forms for the test and a list of Examination Centres is available from:-

The Post Office,
External Telecommunications Executive,
Maritime Radio Services Department,
Union House,
St. Martin- Ie-Grand,
London,
ECIA JAR.

Do not be put off by the need for the above certificate. You will find the studying interesting and you will become confident in the procedure as a consequence of which those responding to you will recognise you as a competent user. A useful tip is to listen in when on the water to the operating procedures used by ship to ship and ship to Coastguard in your area.

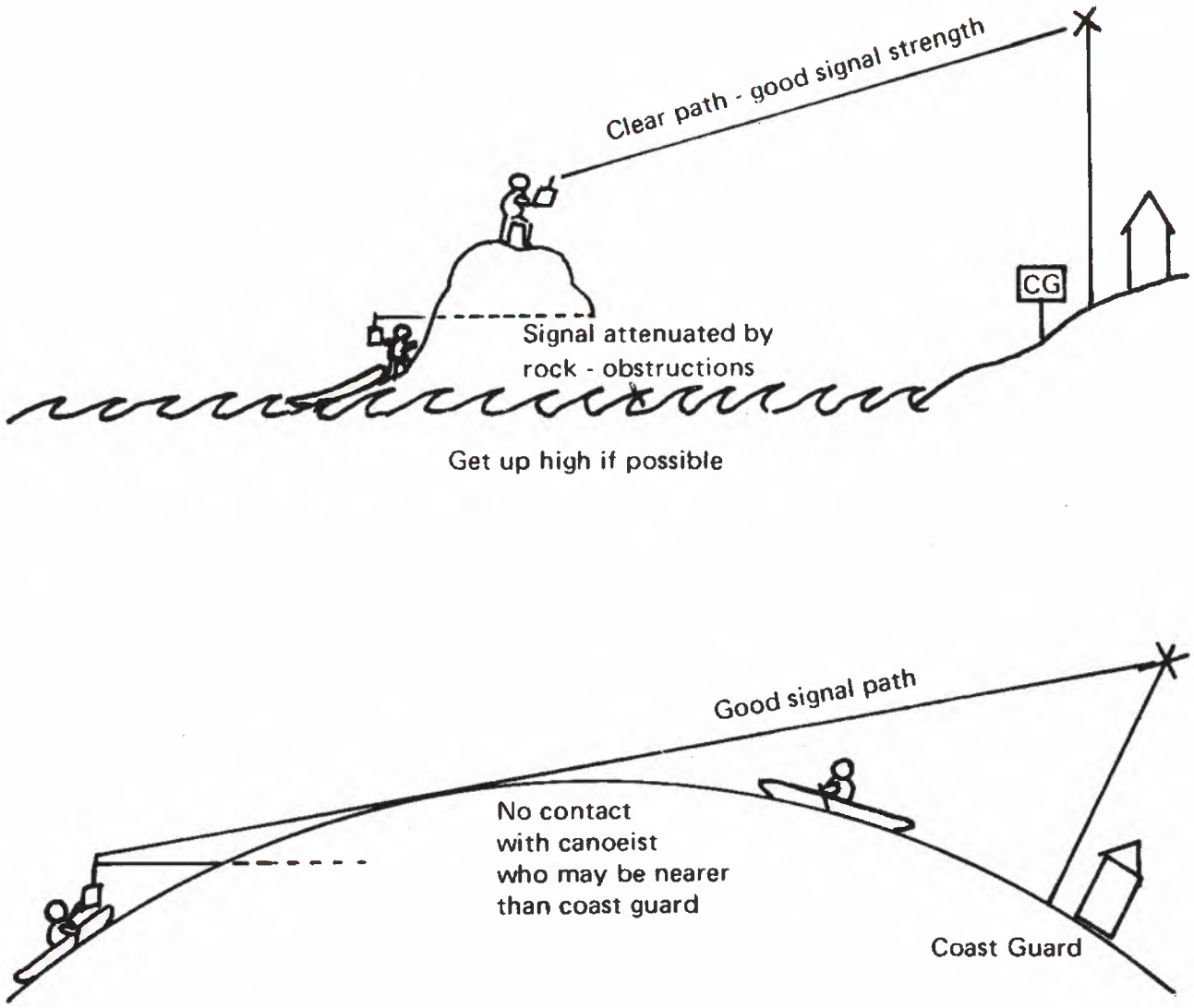
Signals in the marine VHF band (150.00 MHz to 174.00 MHz) are influenced by the troposphere. Beyond the optical horizon the radiated radio wave may, according to weather conditions, be bent or refracted round the curvature of the earth. This refraction is caused by gradual changes in the 'dielectric constant' (a ceiling through which electricity will not be conducted) of the atmosphere which occurs at heights of about 2 km (6,000 ft). The larger sets driven by ships batteries have a range of between 40 and 70 miles but the hand held I watt sets have a range of about 20 to 25 miles, relying on 'line of sight' for good contact. Occasionally ranges of 100 miles or so may be achieved. This is brought about by "ducting' of the radio wave due to temperature inversion. We can usually estimate a distance of 1 & 1/2 times "line of sight' but anything that comes between the transmitting antenna and the receiving antenna can cut this range down; and remember you are transmitting from sea level with a relatively poor antenna on low power.

This being the case, always seek to make best use of your hand held set. Look at your map or chart to check there is no mountain range occluding your 'line of sight'. Use your radio from a good high position whenever possible. Take a hike to high ground from your campsite before transmitting.

Communication distances between two kayaks will be down to 6 to 7 miles whereas it will be considerably more between kayak and a coastal radio station which have antenna 30 ft to 100 ft above sea level so as to give as wide a service as possible.

So, whenever possible, climb as high as you can keeping your R/T switched on to receive. If you can hear the coast station clearly, you should be able to make contact. Often it pays to move around to find

the best position. Sometimes only moving a yard or two, will improve the second strength and if it improves the incoming signal -so your outward signal will also improve. VHF two way radio, used sensibly can add a great deal to the safety precautions normally exercised by the competent paddler whether on an extended expedition or days coastal paddle.



Greater distances possible - with coast stations.

Now a word about operating procedure. On most VHF radio-telephones the operator must press a switch in the handset to speak and release it to listen (The SIMPLEX system). As obvious as this is, it is worth stating, as often panic can and does cause confusion.

The English language is one of the recognised international languages of radio-telephoning. It is important to speak clearly and concisely. Standard procedure and familiar words and phrases provide a common pattern understood by radio operators world wide.
A call consists of:-

(1) The name or identification of the station(s) being called, not more than three times.
(2) The words 'THIS IS'.
(3) The name of or identification of the calling station not more than three times. You will need to devise your own call sign, e.g. 'KAYAK ONE'. Normally the name of the station called need only be given once and that of the calling station twice. Once contact has been made the name need only be transmitted once.

If a station does not reply, the call may be repeated at three minute intervals - assuming that this does not interfere with any communications in progress.

If the station called agrees with the working channel proposed by the calling station, in the reply to the call it should indicate that from then on it will listen on that working channel and also state the working channel which it will itself use. If it does not agree with the working channel proposed it should indicate a suitable alternative.

Before making a radio-telephone call it is important to be clear about your proposed message. Speak directly into the microphone, held a few inches from the face, about as loud as for a normal conversation. Speak clearly and emphasise weak syllables. The rate of speaking should be steady, but complicated words or figures should be given more slowly, -particularly if they need to be written down by the recipient.

It is worth remembering a few 'pro-words' or procedural words. Here are some of the most. important.

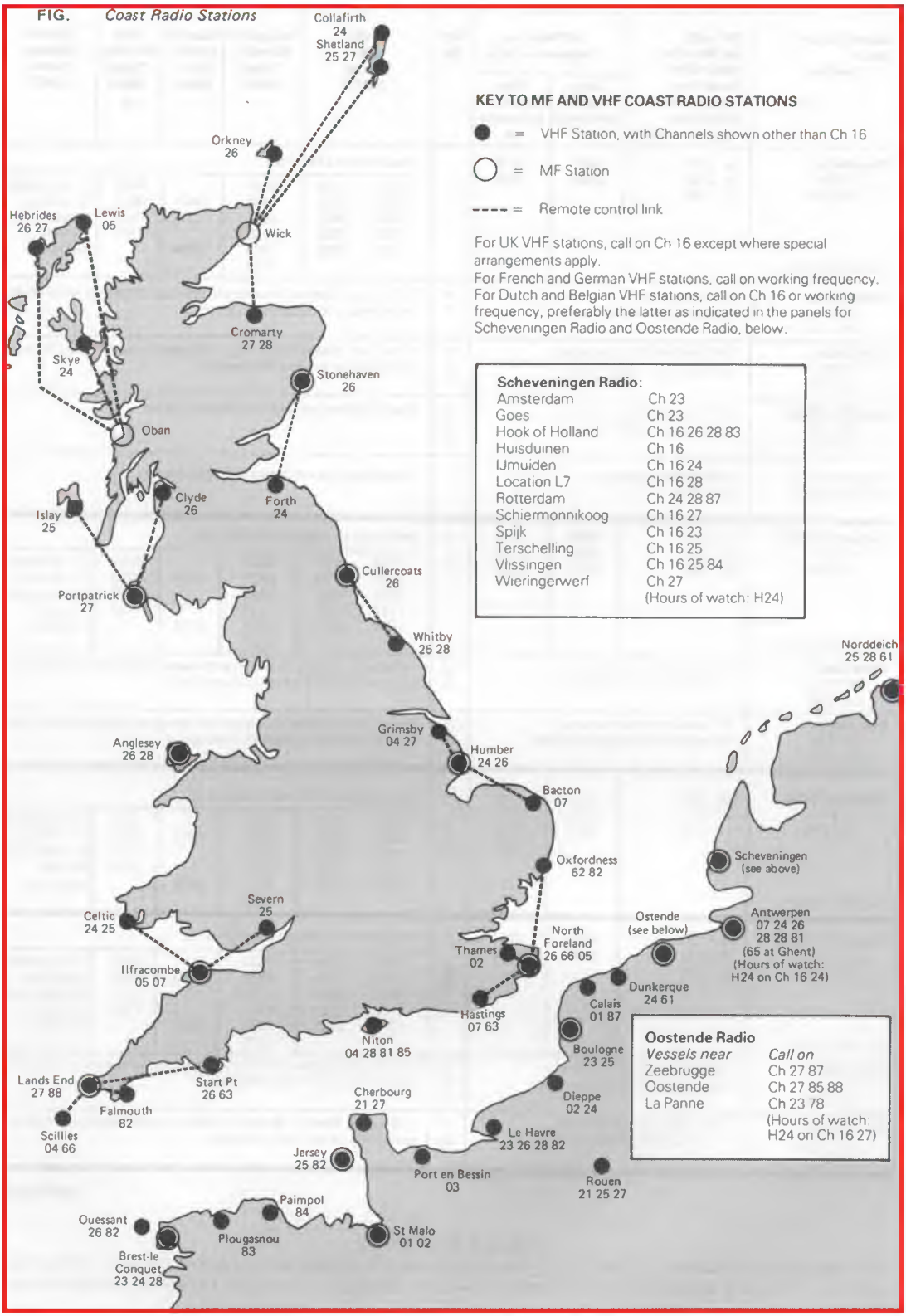
ACKNOWLEDGE	Have you received and understood?
CONFIRM	My version is..... , is that correct?'
CORRECTION	Spoken during a message, means' An error has been made in this transmission; the correct version is '.
I SAY AGAIN	I repeat (normally important words or numerals in the message).
I SPELL	"I will spell out the next part of the message phonetically.
OUT	End of transmission.
OVER	'I have completed this part of my message and am inviting you to reply'.
RECEIVED	Receipt acknowledged.
SAY AGAIN	Repeat your message (or portion indicated)
STATION CALLING	Used when a station is uncertain of the identity of a station which is calling.

There are strategically located around the British Isles, a number of COAST RADIO STATIONS. (Further details can be found in NOTICES TO SHIP WIRELESS STATIONS as available from the Admiralty.) See the next page.

Apart from controlling communications in their respective areas and serving as a link between ship stations, or in our case kayak-stations, and the telephone network, coast radio stations have several other functions.

At fixed times they transmit traffic lists, i.e. shipping movements in the relevant area. They also transmit navigational warnings (wrecks, lights not functioning, etc.) and weather bulletin. Gale warnings are broadcast at the end of the next silence period as well as at scheduled times. Most of the major coast radio stations in the UK operate on VHP and some control one or more unmanned satellite VHF stations in order to extend the area of VHF coverage.

Initial VHF calls to UK coast stations are normally made on channel 16 though some stations can be called direct on their own working channel. Many European coast stations may be called on channel 16 or an appropriate working channel.



It is worth realising that you are able to use the telephone land line system from your kayak or camp site. Here is how. First you call the nearest coast radio station on channel 16. This station will ask you to move to a working channel to use and will ask you for the number your require.

On giving this number you will also obviously be giving your call sign and Accounting Authority

Indicator Code (AAIC) which for small craft is GBP14 (GOLF BRAVO ONE FOUR), thus so you can be correctly debited with the cost of the call. Of course I assume your call sign is correctly registered.

The coast station will verify your required number and make the connection. The coast station decides the duration of the call for charging purposes and normally informs the ship (kayak) station at the conclusion of the conversation with the land line.

Whilst paddling in Prince William Sound in the Gulf of Alaska, I rang my wife in this way as it was her birthday. I had quite forgotten it was the very early hours of the morning in the UK and I might add it was an expensive 'Birthday Wish'. None the less it had the desired effect!!

It is possible to receive a weather forecast from coast radio stations. Your request should state the required period, area and your call sign.

Similarly, reports on actual weather conditions in local areas can be obtained by link calls to coastguard stations. When within VHF range, reports on local weather can be obtained direct from principal coast-guard stations using channel 67.

Should anyone ashore wish to contact a party of kayakers it is possible for them to use the coast radio station nearest to the best known position of the party. Normally any messages are of an urgent nature and are broadcast immediately after the morning and evening weather bulletins. This scheme is primarily intended for those with radio receivers but not necessary with transmitters.

In contacting the coast station concerned you need to ask for 'YACHTING RADIO MESSAGES' and give the call sign used by your party of kayakers. There is a cost per word for this service.

One of the greatest advantages of having a radio-telephone is the ease with which help can be sought in a crisis.

In such a circumstance there are strict procedures to be adopted and you should be familiar with them. Channel 16 on VHP' is internationally accepted as the channel for passing DISTRESS, URGENCY AND SAFETY MESSAGES. As I have said before, many radio stations, (Coastguard, coast radio stations, shipping) will keep continuous watch on this channel.

MAYDAY This call indicates that you are threatened with grave and imminent danger and you require immediate assistance. The procedure is as follows:-
Repeat "MAYDAY" three times.
Repeat your call sign three times.

Then "MAYDAY THIS IS '.....', - MY POSITION IS (latitude and longitude or true bearing and distance from a known point).

Then describe nature of distress and type of assistance required. For example, "I am paddling a sea kayak with a group, one of whom has capsized and is suffering from hypothermia. I require assistance with urgent medical evacuation, OVER".

Your position is of vital importance and if possible, you should repeat it if time allows. It also helps if you state the number in your party.

An immediate acknowledgement should be expected anywhere in coastal waters either from a vessel or coast station. If you do not receive an acknowledgement then check your radio set and try again. Use of the MAYDAY distress signal imposes general radio silence which is maintained until the incident is

properly responded to.
A distress message is acknowledged as follows:-
"MAYDAY" then the name of the station (or call sign) sending the distress message, spoken three times.

"THIS IS", then name of responding station spoken three times.

RECEIVED MAYDAY.
A craft which hears a distress message and is able to provide assistance should only acknowledge after giving an opportunity to the nearest coast station to respond.

The above example of a hypothermic paddler may well not be the subject of a MAYDAY call. If his or her life is not immediately threatened then an URGENCY SIGNAL, consisting of the words "PAN PAN", spoken three times will indicate that you have an urgent message. Such messages take priority over all but distress calls.

There is a SAFETY SIGNAL and this consists of the word "SECURITE" (pronounced SAYCURE-E-TAY) spoken three times. This indicates that the station is about to transmit a message containing an important nagivational or meteorological warning. For example a drifting buoy, a wreck or a gale warning. Such messages usually originate from coast stations and are transmitted on a working frequency after an announcement on the distress frequency, channel 16.

You may well think I have spent a lot of time on radio- telephones. I make no apology. In my last edition of this book, written quite some time ago, marine hand held sets were expensive, less reliable and difficult to keep dry.

This is not the case today and I believe that you might well be considered liable should you be in charge of a party that suffers an incident and you do not carry a radio. As I said earlier in this chapter, the concern is that, as the use of these sets proliferates, so there is a greater potential for their abuse by kayakers who might be encouraged to take greater risks because they can so readily call up assistance. Happily there is no hard evidence to support this concern and long may this be the case.

PERSONAL LOCATOR BEACONS (PLBs) and EMERGENCY POSITION INDICATING RADIO BEACONS (EPIRBS) .....
are portable emergency radio devices which, when activated, will transmit an emergency/distress signal on 121.5 and 243 MHz. These are really for aeronautical use and the maritime search and rescue authorities such as the coast- guard do not listen in on these frequencies. Reception depends on an air-craft flying nearby and whether they are monitoring these channels and of course this cannot be relied upon and are consequently of limited use to paddlers in the UK home waters when a VHF radio-tele-phone is so much more appropriate. Moreover the wrong or accidental 'triggering' of a PLB or EPIRB can raise unnecessary alarm signals. They cannot be readily switched off once activated and so if you do use one ensure it is safely stowed and get yourself a licence from:-

Radio Regulatory Department, Home Office,
Waterloo Bridge House, Waterloo Road,
London, SEI 8UA.

Just to conclude this particular paragraph with the story of the oil rig worker who illegally purloined an EPIRB which he stowed on the top of his wardrobe in his bedroom. Apparently it went off quite spontaneously in the middle of the night and the signal was picked up by a Nimrod Aircraft who radioed the exact position to the ground authorities. In very short time our oil rig worker was being raised from his bed by the police and asked to explain his possession of an EPIRB!! Beware.
Before closing this section on radio communications I should say something about the use and

proliferation of mobile telephones. Without doubt these have made radio aids for kayakers less important than hitherto. The safety levels in terms of good comms. has been raised many fold. Like marine radios they can run out of battery power when most needed and like radios must be kept away from your compass when navigating.

So far I have mentioned flares and radio aids under the subject heading of Safety Equipment. To make this list complete I need to add the following:-

1 FIRST AID KIT

2 WATERPROOF TORCH

3 EMERGENCY FOOD

4 EMERGENCY CLOTHING

5 REPAIR KIT

6 SPARE PADDLES

7 BUOYANCY JACKET

8 TOWING LINE

9 EXPOSURE POLY BAG

10 COMPASS

11 PUMP/SPONGE

12 RUDDER OR SKEG

You may wonder at one one or two items in my list. Perhaps one of the most controversial is the rudder or skeg. Personally I prefer to paddle without such a fixture on the grounds it can let you down when you need it. most, so the argument goes, do not rely on it in the first place. But on the other hand such an item of equipment does give great assistance. A beam wind from the front or rear quarter can blow the kayak continually off course and a skeg, suitably adjusted can, particularly for less experienced paddlers, make all the difference.

I shall be describing the first aid kit when I cover the subject of First Aid.

Other items require no explanation. Spare paddles are obvious enough. Held to the rear deck under deck elastics, they should be readily retrievable. Spare paddles are the only items permitted on the rear deck and even these can become entangled with your towing line when in use and towing from the cockpit.

A useful skill and exercise for practice is to discard your paddles, capsize and retrieve one of your spare split paddles under water and use it to roll back up.

Emergency food is obvious enough. High energy food is handy to consume when hunger grips but it is a good idea to have a pack of rations solely for emergency purposes that will still be unused, dependent on there being no real emergency, at the end of the expedition. Keep this pack stored away from your regular food rations on the basis that should you lose one supply you will still have the other. On one

occasion we found one of our food caches all but demolished by foxes, or perhaps it was bears. In any event we had to subsist on our emergency rations until we made our next supply point. Food for emergency use should be of high carbohydrate content and should be readily absorbed. Sugar or glucose are obvious examples and such items as Kendal Mint Cake, Mars Bars and honey are ideal forms of delivery.

Make sure your emergency ration pack is not only well labelled but well packed to protect it from the elements. I keep my pack with my survival bag and emergency stove and in the main consists of the items mentioned above together with dried fruit, museli, nuts, Turblocken and sachets of soup, Complan etc. to make a hot drink. The pack should also contain water-proof matches and some dry tinder to assist with fire lighting.

Emergency clothing should also be well wrapped and protected and kept for emergency purposes only. I use a thermal one-piece, socks and thermal top. Alternatively a warm track suit suffices. There is nothing to stop you swapping the clothing in your emergency pack for the smelly (but dry) clothes you have been wearing up to half way into the expedition.

Remember it may not be you who actually uses your emergency gear. One of your party may make demands. Even a stranger may show up. Frank Goodman will tell you of the time he and his party visited Bear Glacier about 20 miles out from Seward in Alaska in Resurrection Bay. They had landed on the beach in front of the glacier and on counting heads just prior to departure Frank kept coming up with an extra one. True enough -his party had come across a lone paddler who had left Seward several days earlier and on landing in moderate surf had lost kayak, food a.nd gear. He was in a bad way and whilst a rescue raft was called up by radio, out came the emergency food and clothing. I guess he did not care whether the warm clothing was smelly!!

Repair kit is likely to be a survival item. A damaged kayak, either in the middle of a long crossing or out on an extended expedition, in remote areas, is going to prove a real problem if you cannot fix it. I always keep a roll of DENZO (plumbers') TAPE handy. This is a sticky "gungy' tape ideal for repairing cracks or small holes in wet kayaks. PVC tape, two inches wide, which comes black or silver coloured, and is sold in the canoeing world as repair tape, is magic if you are able to secure it in place over a really dry patch. We used to spray with methylated spirits and ignite to dry the damaged area sufficiently well to get the repair tape to stick. Difficult to achieve this on the water of course.

For more major repairs you are going to need a fairly extensive repair kit. When I take the BSES (British Schools) Or Raleigh International expeditions I take almost enough to manufacture a kayak out in the field. With forty youngsters and forty kayaks the law of averages are really stacked against you. Under these circumstances, I would take sandpaper; roll of Chopped Strand Mat 1 1/2 oz glass fibre; acetone; Resin; hardener; and brushes. With this lot you can effect a full scale repair job -given that you have some where dry to work and can stick around for a few hours. On top of this material to actually repair damage to kayak shell, you might need to repair pumps, foot rests, deck fittings etc. and a small tool kit and spares for these items could well be more than just useful. You may have other items of expedition gear to repair such as clothing, tent, cookers etc. and you should bear this possibility in mind when assembling your now very comprehensive repair kit.

One thing, if you take it along you can bet your last dollar you will not require it, but conversely if you should dare forget something like a spare wing nut for foot rest then you are bound to need one !!
I believe it's called 'Sod's Law'. All the same, when embarking on a long expedition away from hardware shops have a think about the items of equipment that could break down and what essentials you will need to effect running repairs. From these thoughts will emerge your list of needs for your Repair Kit.

RESCUE SERVICES

Before describing the Rescue Services let me first address the question of whether or not you ought to inform the co-ordinator of the Services, HM Coastguard, of your proposed expedition.

As I see it there are two options. Tell the coastguard or tell a reliable friend or relative. In fact I do believe that even the Coastguard prefer the latter options, certainly I do. Given that your reliable friend or relative clearly understands what it is you are undertaking they are usually better placed to decide when you are overdue. They should be aware of all the factors in the equation such as weather, prevailing winds, number in party, point of departure and of arrival and estimated time of arrival. Should your friend have to resort to alarming the Coastguard then these facts will all require stating. The Coastguards will probably also want to know the answers to several other questions such as, who is the leader?; is the party carrying flares and /or radio-telephone?; what colour are the kayaks?; what time the party left?; the best guess as to the strength of the party. If you do tell the coastguard they will log most of the above information plus the telephone number of a third party that they can contact in any emergency.

H.M. COASTGUARD

Through International Conventions, signatory States undertake to provide SEARCH AND RESCUE (SAR) cover for those in peril on the sea within the areas of responsibility allocated to each State.

Each country has its own methods of providing such cover. Some countries places the entire responsibility upon their armed services. In America the US Coastguard (a Federal Law Enforcement Agency) is given responsibility for their maritime region.

The United Kingdom allocates responsibility for dealing with civil marine casualties to HM COASTGUARD which is a section of the Marine Directorate of the Department of Transport. The Royal Air Force is tasked to rescue aircraft casualties.

The operational centres for these bodies are the six MARITIME RESCUE CO-ORDINATION CENTRES (MRCS's) of H.M. Coastguard.

LIVERPOOL	YARMOUTH
SWANSEA	ABERDEEN
DOVER	CLYDE

The two Rescue Co-ordination Centres (Air) of the RAF are at:-
PLYMOUTH
PITRIEVE

Needless to say all of these Centres maintain close and continuous liaison to ensure an efficient response to incidents whilst avoiding any costly over-reaction and duplication of effort.

The area for which the U.K. is responsible stretches from the middle of the North Sea/English Channel out to the Mid Atlantic, excluding the area controlled by Southern Ireland. For precise details of Coastguard Stations see Chart 5071. Every incident within this area will be dealt with by one or more of the MRCCs or by a delegated Sub Centre.

The practical assistance deployed to an incident within the U.K. SAR Region (see illustration) will be provided by one or more units which actually belong to different organisations or authorities. It may be a Lifeboat of the RNLI (Royal National Lifeboat Institution) or a helicopter or fixed wing aircraft of the Royal Navy or Air Force. It may be an Auxiliary Coastguard Rescue Company. All these units are collectively known as 'declared facilities' and they are maintained to designated standards.

In support of these declared facilities are 'additional facilities' in the shape of all other units which may be able to assist such as shipping or civil aircraft which may be in the area.

The co-ordination of Search and Rescue effort is a demanding and difficult task both in maintaining a state of continuous readiness and in the actual co-ordination of rescue attempts.

As for as the sea paddler is concerned the contract point, will be one of the six MRCC's or one of the eighteen Sub Centres.

The coastline between the MRCS/SC's is divided into Sectors each managed by at least one regular Coastguard Officer and consisting of numerous Auxiliary Watch and Rescue Stations. Not for many years has the old type of regular station maintained continuous watch as this has proved to be grossly inefficient.

The Service now sets visual watch whenever it is deemed necessary as judged by the ***'casualty risk factor'*** which can be brought about by any eventuality. For instance the probability of deteriorating weather during winter may not call for the placing of an auxiliary station on watch whereas the same weather conditions in summer when many pleasure craft are out on the water may well demand, that a visual watch be placed. Even so statistics show that only some four percent of incidents are ever seen visually from these stations on watch -they always tend to occur just round the comer.

Each of the MRCC/SC's is constantly manned and is the terminal for all 999 telephone calls within its district. A comprehensive VHF network covers the U.K. waters and the distress channel (16) is monitored continuously at these stations through their local and remote 'high point' aerials.

Continuous weather monitoring is obviously an important part of the MRCC/SC Watch and the duty staff can provide not only the official Meteorological Office Sea Area Forecast (often a bit long-winded for the sea kayaker) but also local inshore forecasts and strong wind warnings, (also prepared by the Met. Office) and sometimes more importantly, local weather 'actuals' and tidal information.

The MRCC/SC Watch will consist of at least two regular Coastguard Officers and one or more Auxiliaries. They will have before them a constantly updated and comprehensive range of information and intelligence enabling them to act immediately to assess any marine incident and then deal with it.

Dealing' with it will entail deploying appropriate S.A.R. units seeking further information, designating search area's, maintaining communications and records and keeping all concerned fully informed. The back-up signal distribution itself can be a major task in a large or complicated incident -especially if this involves counter-pollution operations. These communications are facilitated by the direct links which are maintained from designated MRCC/SC's to British Telecoms Commercial Coast Ratio Stations and to similar MRCC's on the Continent and in Southern Ireland.

H.M. Coastguard are currently installing computers at MRCC's programmed to evaluate the multitude of various factors involved in any' set and drift' problem in order to establish a realistic search area to which to deploy units appropriately.

In any one incident one Coastguard MRCC/SC will be committed to seeing it through until completion, that is, until all concerned have been accounted for or until it can be certain there there is no chance of missing persons still being alive.
The kayak has to be the smallest of vessels. However, it is still a vessel and the prime responsibility for its safety and that of its occupant (s) is that of its Master.

No marine welfare service exists to prevent the uncautious, the imprudent or the downright incompetent from getting themselves into difficulties and perhaps losing his/her life. The Maritime Search and Rescue Organisation is in existence to render aid and provide assistance to those in distress or difficulties, there is a slight but significant difference.

The responsible sea kayaker will first have planned his/her trip and planned it well -times and tides, distances, courses, visibility and weather conditions alternative planes to cover even the most unlikely eventuality. The leader and his group will have nominated a responsible shore contact, someone fully briefed on their plans, abilities and descriptions of kayakers and kayaks. It is the shore support who will raise the alarm with the relevant MRCC/SC should the group fail to check in and with whom the Coastguard can maintain contact for further enquiries or information.

The answer to the question 'should we inform the Coastguard?' depends on the circumstances of each case.

Let us be clear upon one thing at least, -H.M. Coastguard is not a kind of marine policeman. The sea is free and you do not HAVE to tell them. However, they are in the business of collecting a large amount of current information and intelligence of everything happening on the coast and at sea and knowledge of a group of paddlers and their intentions and abilities can be useful should someone make a 999 call to express concern. No harm is done in advising the appropriate MRCC/SC of your trip when checking on the weather conditions.

Once you have informed the Coastguard, remember to always check in again to confirm you have completed your trip. This could be the designated task of the shore contact, but whoever, do ensure this is done, -it ties up each 'case' neatly and helps establish a good liaison between the Service and the Sea Kayaker.

A good competent group paddling a few miles to a surf beach, keeping inshore, able to beach at any time if in difficulty and with a shore contact who is well briefed have no real need to advise of their activities. A similar group including youngsters or novices would be a different proposition and their leaders would be failing in their responsibilities if they did not take steps to ensure coverage of the worst case scenario. On a similar and related track, the proportion of proficient paddlers to novices is most important at sea. Novice capsizes are peculiarly contagious -and the close knit group at the start can soon begin to open up and quickly become a widespread nightmare with too few competent leaders.

The prudent sea paddler should be self-reliant in the extreme and aim to be the one seafarer who requires no wet-nursing. Inevitably there will be the odd occasion when events, beyond anticipation will cause aid to be sought. It is now that your safety equipment, comes into its own, and you must be capable of using it in or out of your kayak, wet, sick, cold and frightened.

Should any sea kayaker require the deployment of U.K. SAR Units they, naturally, feature in an official report as does any marine casualty. A copy of this report is now passed to the nominated officer of the British Canoe Union Sea Touring Committee. This allows for any required local or national response. Should this report indicate a situation from which lessons can be learned, steps are taken to contact those concerned so that advice can be given and hopefully repetitions avoided. A 'nameless' precis of . these reports is also prepared each year for the Sea Touring Committee (which has a member of H.M. Coastguard on it) and a copy always goes in the ***International Sea Kayak Club newsletter***, 'OCEAN KAYAKER', now produced by Stuart Fisher, editor of the CANOEIST Magazine. This precis gives a guide to trends and is a valuable asset to the sea kayaking fraternity. Should an incident result in loss of life, the B.C.U. is able to nominate an experienced sea kayaker to attend the subsequent Coroners Court as an Expert Witness and thus avoid unfortunate and unfounded opinions being expressed and uncorrected; for such can do great harm to the sport.

COAST RADIO STATIONS

These are operated by British Telecom and part of their duties is listening to the international radio distress frequencies. Ten stations keep continuous watch on 500 KHz (the radio-telegraphy distress frequency) and on 2182 KHz (the Medium Frequency radio- telephone distress frequency).

A total of 19 Coast Radio Stations keep watch on Channel 16, which as you know is the VHF distress frequency. If a distress call is picked up, it is broadcast on all distress frequencies to ships at sea and the Coastguard are notified. Radio distress calls and distress traffic have priority over all other transmissions.

ROYAL NATIONAL LIFE BOAT INSTITUTION (RNLI)

The RNLI was founded in 1824 as a private organisation supported entirely by voluntary contributions. There are about 200 RNLI stations around the U.K. coast. Republic of Ireland, Isle of Man and the Channel Islands. From them are deployed about 130 life boats and about the same number of inshore life boats, some of which are only employed during the summer months.

All crews are volunteers. At each of the stations there is usually a full time mechanic or coxswain in post. All small boat users are encouraged to support the RNLI by joining SHORELINE, full details of which can be obtained from:-

RNLI,
West Quay Road, Poole,
Dorset,
BN15 1HZ

When launched on service the offshore lifeboats listen in on 2182 KHz and Channel 16. They can also use other frequencies for contacting other vessels, SAR Aircraft, Coastguard, Coast Radio Stations and any other authority involved. Inshore life boats are fitted with VHF. All life boats are fitted with a quick-flashing blue light.

THE ROYAL NAVY

The Navy will assist casualties by means of surface craft and aircraft, including helicopters. THE

ROYAL AIR FORCE

The Air Force operates through the RESCUE CO-ORDINATION CENTRES at Edinburgh and Plymouth on the south coast. Essentially it is responsible for providing rescue facilities for military as well as civil aircraft but they will, as far as is operationally possible, assist ships in distress by means of long range search aircraft and helicopters strategically stationed to provide S.A.R. Cover.

HELICOPTER RESCUE

In the event of a helicopter coining to your rescue it is important that you follow the instruction from the winch man. He will always assume you have no knowledge of the procedure and he will consequently guide you through it. Having said this you will find it very useful to understand something of what is involved.

First, act promptly. Helicopters have limited endurance. Whilst hovering the pilot has limited vision of you on the water and he relies on instruction from his navigator/winch operator. Normal hovering height is about 25 ft though some helicopters have a “highwire” lifting capability of 300 ft (90 m) - useful when effecting cliff or beach rescues. It goes without saying that as soon as you see the helicopter you do all you can to attract his attention. Hopefully, if you have radioed for assistance you will have given your position in terms of latitude and longitude, -or at least a fairly good description of your location.

A smoke flare is particularly useful as it gives the crew a good idea of wind direction and speed as the smoke disperses, in the event, any flare should help to guide the rescuing aircraft as will sea dye, an orange exposure bag, a flashing torch, and obviously if you are able to use your radio-telephone you will be able to talk him over to you whilst he is giving you final instructions.

Once the helicopter has seen you and your party, assuming you are together, he will make the approach. Many winchmen prefer to pick up the 'casualty' direct from the water by approaching from downwind. You need to be prepared for the down-draught which can be quite forceful.

On a recent exercise with the local Rescue Helicopter and Canoe Club, I found the down-draught, from the large BRISTOL heli. to be less than the RAF WESSEX. You should also be prepared for the noise which may add to the feeling of drama but in itself is of no consequence. When I was involved with a helicopter rescue exercise in the States it was interesting that their heli. actually 'dumped' on the water and one of the crew would either swim or row out to the casualty. He would land up wind to protect the rescue operation. The winchman will certainly not allow you to clip his winch line to your kayak so do not even think about doing this. He will simply slip the harness or strap over your head and under your arms and give the signal to the winch operator to lift.

It is usual for the winchman to 'dip' in the water before coming to you. He does this to discharge any static electricity which could give you a serious belt.

Royal Navy SAR helicopters may carry a diver who will enter the water and superintend the lifting of survivors. His instructions must be followed promptly. In this case survivors are usually lifted from the water by double lift in a strop, accompanied by the diver in a canvas seat. In other circumstances it may be necessary for the casualty to position the strop him or herself and give the 'thumbs-up' signal when ready to be hoisted. When alighting from the helicopter be sure to listen to instructions from the crew since it is easy to walk into the tail rotor. Oooooops!

So to recap, the helicopter will approach heading into wind. On no account paddle towards the hovering helicopter. Remain still and await instructions. The pilot will have judged your position and drift and will be manoeuvring without necessarily being able to keep an eye on

you, so simply stay put. If you did use a smoke flare to initially attract the crew, do make sure you get rid of it in good time, you do not want to cloud the issue.

I have discussed the techniques of rescue from a canoe with an experienced RAF helicopter winchman and he is of the opinion that as a general rule it is best to clamber out of the kayak into the water, hanging on to the kayak until told to release it. There are a couple of good reasons for doing this. The first is that it is possible the down-draught will keep blowing you away and it is easier to winch you direct from the water rather than from your kayak in which you might be tightly wedged. This does not mean that a casualty cannot be rescued either direct from his kayak or, better still, from the decks of several kayaks which have rafted up. This may well be the best choice if the casualty is suffering from injury, cold or shock and a ducking' in the water may well be the 'last straw'.

On the East Greenland coast with a bunch of British Schools Expedition members