29| Canoeing And River-Rafting Expeditions

Peter Knowles

Most people have dreamt at some time of descending a great river from the mountains to the sea. This chapter is for those interested in making this dream a reality – or for those expeditioners who want to use river transport to achieve more worthy scientific aims.

We have all been brought up on tales of the fur traders and explorers in their Indian canoes, and Eskimo hunters in their kayaks. Less well publicised are the more modern journeys by kayaks and canoes across the Atlantic, a solo circumnavigation of Australia, expeditions down some of the world's largest rapids, descending 20-metre waterfalls, and many thousands of other journeys done for pure enjoyment.

Figure 29.1 River travel gives opportunities to meet local people and should have minimal impact on the environment (© Peter Knowles)

Although it is probably true to say that most major river systems of the world have now been explored, new areas and countries are opening each year and presenting fresh opportunities waiting to be grasped, e.g. Paul Grogan and Richard Boddington did a first descent of the Amur river, from its source in Mongolia 4500 km to the Pacific Ocean in the year 2000 – this expedition would not have been possible before political tensions eased between China and Russia.
In North America, the sport of river running using large inflatable rafts is now very popular and a multimillion dollar business. Commercial rafting has spread worldwide and there are now operations in most countries – from Bali to Siberia; these companies are usually good sources for advice on local rivers.

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ADVANTAGES OF RIVER EXPEDITIONS

In many areas, rivers and waterways have been the traditional and national means of travel, and local people normally "relate" to river travellers. Water transport enables you to cover a lot of ground relatively fast and easily and with more equipment in comparison to travel on foot. River expeditions "leave no footprints" and have minimal effect on local ecology, while canoes and rafts are quiet and a good means of observing wildlife. Rivers, and especially white water sections, are normally highly photogenic, although photos are best taken from the bank because of camera shake. Modern canoes, kayaks and rafts are very strong and light, and can be used on a surprisingly wide range of water, from rocky trickles to the open sea. Rivers and waterways are normally excellent ways of getting into the countryside – away from towns and roads. Probably the best reason for a canoeing and rafting expedition is that it is normally highly enjoyable.

LIMITATIONS OF RIVER EXPEDITIONS

Obviously you are limited to where the water is, and to what is navigable, and it should be noted that river trips are normally one way – downhill. A river expedition is usually more committing and may need more planning and logistics than the corresponding foot expedition. Some experience and/or training, especially for harder rivers, is recommended. The logistics of obtaining your boats and equipment and transporting these to your chosen river may be costly.

DIFFICULTY OF WATER

Rivers are graded for difficulty on an international scale of river difficulty from I to VI.

- Grade I is just moving water – easy and safe, something like the lower river Wye
- Grade VI is almost impossible and carries extreme danger to life.

We use the term “white water” normally to mean grades II–VI inclusive. High water will make a river considerably more difficult – usually one grade higher and probably two grades higher in flood conditions.

Experience needed
Most people should be proficient at paddling on grade I and II water after a few days of a course in kayaks or canoes. For grades III and upwards, you are looking at considerably more training and experience. It normally takes a few seasons before a kayaker is competent and at home on grade IV. The river leader should be able to paddle one grade higher than the rest of the group. Loaded boats make the subjective difficulty at least half a grade harder, as does very cold water.

Inflatable rafts require a slower reaction time and less skill to paddle than kayaks or canoes; however, because they are less manoeuvrable, they perhaps require more ability at reading the rapids, so the helmsman in charge needs to be experienced.

Size of river
Small White Water Rivers are often described as “technical”. They require quick decisions and faster reactions than a larger river. More damage to equipment can be expected on a small rocky river than a larger one of the same grade.

Big White Water Rivers often have horrendous-looking rapids that require more confidence than skill. These big rapids are often graded on the main hazards – normally obvious: huge unremitting stoppers, whirlpools, dangerous undertows, etc. These can often be skirted, but if you get it wrong the consequences can be very serious – involving the total loss of, rather than damage to, equipment and personnel.

LAKES, ESTUARIES AND SEA

Kayaks, and to a lesser extent canoes, have been used for some impressive ocean journeys. However, this is too specialised a subject to cover here (there are some excellent books available on sea canoeing), except for some simple brief notes in case your planned journey involves some stretches of open water.

Kayaks are very seaworthy and ideal for hopping from inlet to inlet, but, on any large body of water more than a mile or so across, *wind* becomes the crucial factor, and may make a lake or sea crossing dangerous for an inexperienced party. You should build a safety factor of a few days into your plans to allow for adverse weather conditions. Particularly dangerous is an offshore wind, which makes conditions appear deceptively calm inshore but blows you out to sea if anything goes wrong.

CHOICE OF BOAT

In North America a canoe is something that you kneel or sit in and paddle with a single blade (e.g. an “Indian” canoe); in the UK we use the term “open canoe” to define these types. A kayak is a closed boat that you sit in and paddle with a double blade. In Britain and many other countries, the term “canoe” is used as a generic term to cover both kayaks and canoes.

- Rigid kayaks are fast and manoeuvrable but cannot carry much gear.
- Open canoes are excellent and versatile and are often a better choice for most expeditions.
- Inflatable rubber rafts, designed for river running, are very robust and are good craft for white water. However, they are slow on flat water and difficult if not impossible to paddle against a head wind. Popular sizes are 4 m to 5 m long, and they cost in the region of £3000.
- Folding kayaks, e.g. Klepper, have always been popular for river trips because of their ease of transport. They are more robust than you might suppose, but they are expensive.
- Inflatable canoes and kayaks (called “duckies” in the USA) can be used for river trips, and are great fun, but they are poor load carriers and are slow and susceptible to wind. The cheaper ones are made of thin plastic and are very prone to damage.

Local craft

A classic mistake is to go to great trouble to select, buy and transport your boats from Britain, only to find that the local people have evolved a much better river craft which you end up hiring or buying. If you read expedition accounts you will be amused to see that some well-known personalities seem well practised at this. Your first choice should always be to look at the costs and practicalities of using local craft. In 1987,a Cambridge student followed this advice and descended the Sepik river of New Guinea in a dug-out canoe that he purchased at the top and sold

when he reached the sea – at a profit. If you do decide to save money by using a local craft, then don't stint on the equipment – really good waterproof bags and efficient paddles will make all the difference to the success of your trip.

As mentioned earlier, there are commercial raft and canoe operators now in most countries who may be willing to hire you equipment and local experienced guides. This is an option that you should definitely consider – particularly from the safety viewpoint.

EQUIPMENT

Water-borne expeditions always have a high loss and damage element which tests equipment to the limits and beyond. Take good, strong, tough equipment. Expect and make allowances for breakage and loss, and don't forget a large repair kit. Take a visit to your nearest specialist retailer to get expert advice.

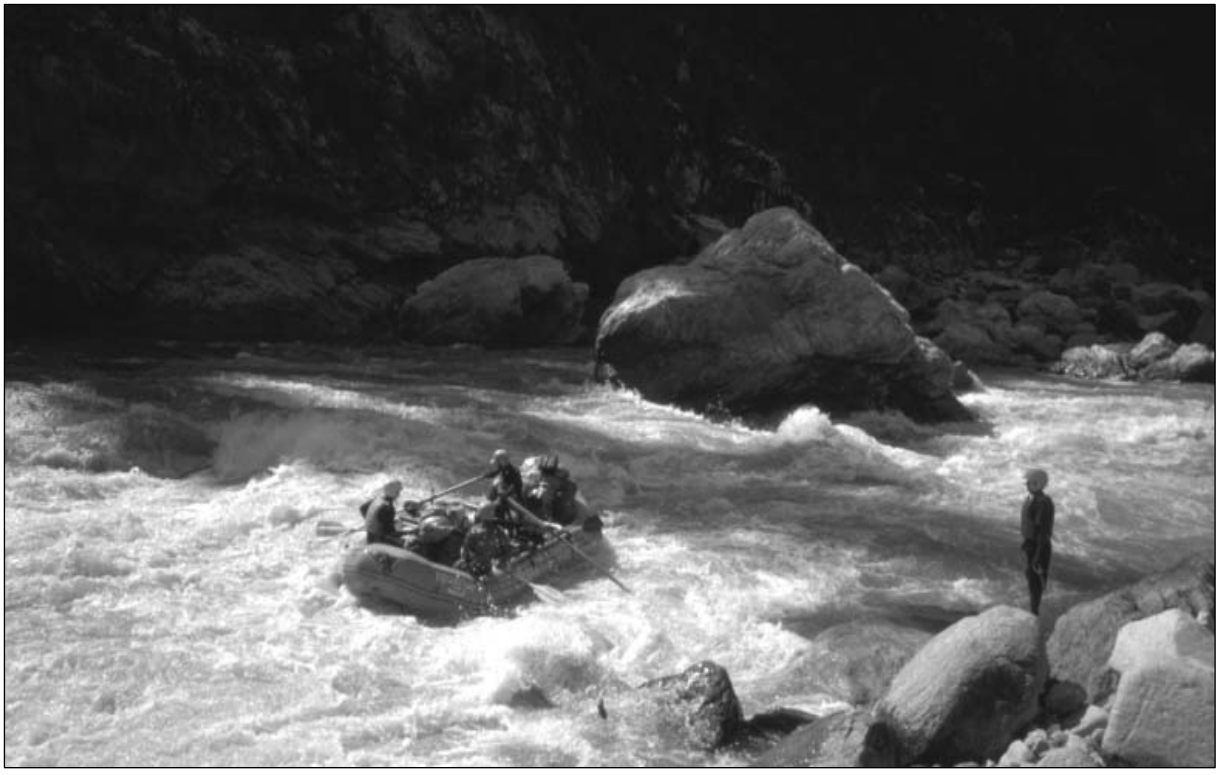

Figure 29.2 A grade IV rapid on the Tamur river, Nepal (© Peter Knowles)

The design of buoyancy aids (known as PFDs in the USA) has improved a great deal over the last decade. You should choose one with plenty of flotation rather than the ones with less buoyancy that are designed for competition use.

For white water, personal protection and padding are often needed – crash helmets, strong padded footwear and buoyancy aids, which provide good protection for the chest. Wetsuits are often chosen in preference to drysuits for the extra protection that they give against knocks and abrasion.

Excellent waterproof bags with roll-over tops of different sizes are available from specialist retailers. Peli camera boxes and similar specialist boxes can be recommended (these use “O” rings). Big blue barrels are good for large rafting expeditions. Various waterproof specialist cameras and housings are available – the majority are designed for sub-aqua use and cumbersome for river trips. Better suited are the “water-resistant” types of automatic 35 mm compact cameras.

If you are doing a white water expedition you should carry rescue throw bags and practise with these beforehand. These also make good washing lines when you make evening camp. It is a feature of all expeditions that equipment can have several functions. When you camp, the waterproof bag that kept your gear dry can become a water container, your paddles become tent poles; your wetsuit becomes a mattress, and your wetsuit boots a particularly nasty bear deterrent!
For kayaks, think about split paddles that can be stowed in the boat. These are much more convenient and are also essential if a set of paddles is lost while bank support is far away.

Packing of boats is a science that you should get expert advice on. All equipment should be tied or otherwise secured in the boat. Weight should be evenly distributed so that the boat is evenly balanced and any heavy items should be low down in the centre of the boat. Last, but perhaps most important, you should not stow the gear such that it impedes you getting out of your canoe or kayak.

RESEARCH AND PLANNING

Where to go

Unfortunately, rivers throughout the world are progressively being dammed and tamed, so, to find a reasonably “wild” river or water journey (other than the open sea), you will have to travel. Obtain as much background information as possible – use your local library, the internet, travel books, guide books, maps, magazine articles, rainfall and temperature tables.

Don’t be too rigid in your early days of research into your choice of river – it may be too difficult, uninteresting or too expensive; your research may lead you to much more interesting alternatives. At an early stage find out the rough cost of travel to and within your proposed country so that you know what is within your budget, e.g. travel within Alaska is very expensive so the cost for a trip there could typically be £2000 per person. I recently did a 3-week trip to Ecuador – wild rivers deep in the jungle – for a total budget of £800, including to and from the UK.

It is not generally realised how much detailed information is available on rivers in most countries – river guide books are now available for the whole of Europe and North America and even for countries such as Pakistan, Peru, Russia and Nepal. The internet is, of course, another great source.

When planning, remember that Britain is small. In Canada, for example, the rivers are ten times bigger, the rapids ten times rougher, the mosquitoes ten times bigger, the walk out ten times further and, if things go wrong, your problems are ten times worse. This usually means ten times the cost.

Map study

Study topographic maps carefully. Trace the river and mark off where the contours cross. Draw a longitudinal profile. What is the average gradient? Are there some steep places? Does the map give any clues in these places? Is the valley nice and open (not too worrying) or do the contours or other clues indicate a gorge? (You need more information.) What are the access points? (New roads may have been built recently.) Note that topographic maps may not be that accurate and may not indicate when or if a river flows underground. Do not trust gradients absolutely. Local information and reconnaissance are vital in these cases.

The difficulty of a river depends on the gradient, the water volume and the topography of the valley (i.e. is the flow constrained?). As a very rough guide, rivers of less than 4 m/km are probably grade I–II, and those of more than this are of grade II–VI and navigable by experts. I would want to check out in detail any gradient of more than 20 m/km.

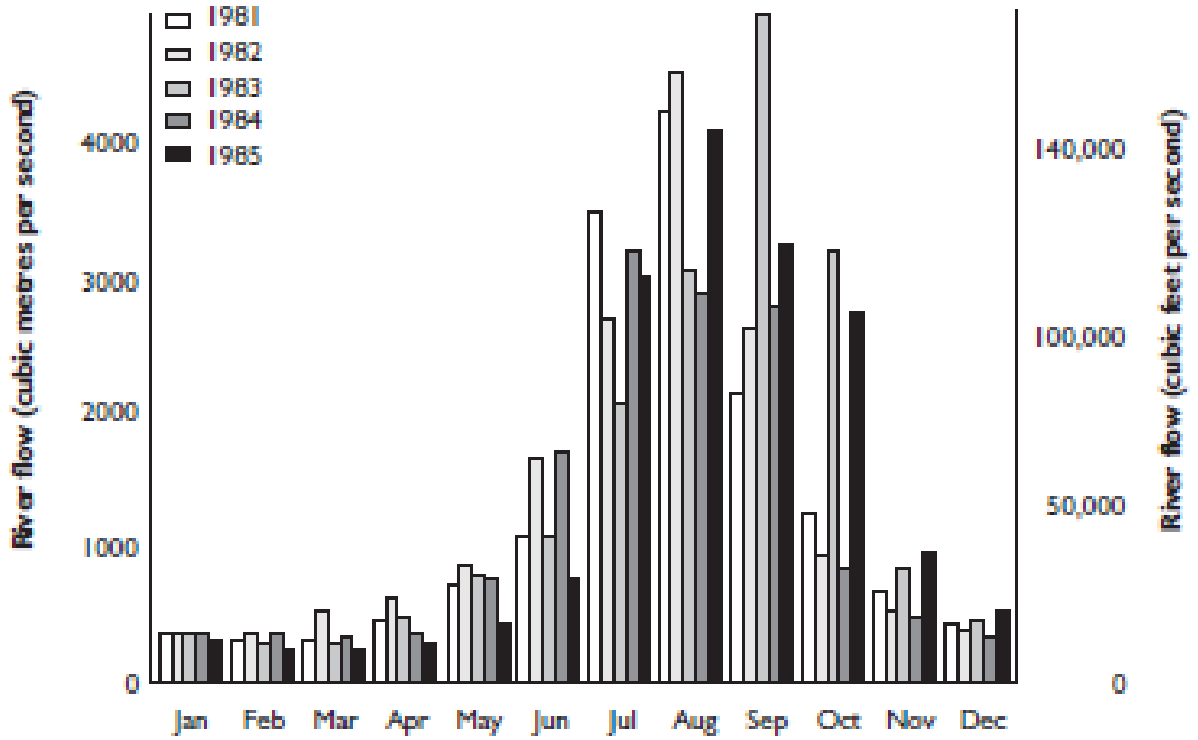

Figure 29.3 Average monthly flow of the Karnali River at Chisapani for the years1981–5 (© White Water Nepal, Peter Knowles, 1998

Water volume
This is critical. Some questions to ask are:

- Is the river level dependent on rainfall?
- When is the rainy season?
- Is snow melt important?
- When is the river in spate?
- Are sudden fluctuations in the water volume likely (flash floods)?
- Is the river dam-controlled?

Normally most rivers, especially canyons and gorges, are easier in low water conditions.

Geology
Major waterfalls are sometimes marked on maps, but a knowledge of the geology of the area (ask a geologist to help you out) will give you some more clues as to the likely nature of the river and the probability of coming round a corner to find a 20-metre waterfall. Note that a river of long flat stretches interspersed with waterfalls is hard work and not so enjoyable as a river descending steadily with consistent runnable rapids.

Information from others
Talk to as many people as possible with a knowledge of the area and the rivers. For a white water river, be a little sceptical of what any non-river runner tells you about the nature of it. For the expert, an enjoyable river is one that the local people often tell you is impossible. Most obvious major rivers have now – I'm sad to say – been run by someone. Your challenge is to find out by whom.

Try to get in touch with local canoeists, river runners or outdoor clubs via the internet and phone calls. After specialist river guidebooks, these are usually the best source of information. Especially in areas like Alaska, local experts can get inundated with general waffly email requests for information from "Dudes and Tourarses"! This is where the telephone is better at establishing contact and credibility. The international telephone system is much more friendly and effective. I also believe that it's more time- and cost-effective. Do identify yourself, tell people about your experience and be specific about the information that you want from them.

Access and support
Ease of access to a river is a critical factor in how serious the expedition is. A river with good road or other access along most of it (especially the difficult sections) means that much of the gear can be carried on the shore if necessary; difficult sections can easily be scouted and shore support, back-up and rescue are much easier. Many expeditions have a "warm-up" before their main trip on a river with such easy access. A warm-up and training on a river before leaving England just before the expedition are useful to resolve initial problems.

The most satisfying river expeditions are probably the ones that are self-contained and do not rely on other outside support. However, the more serious your trip, the more likely it is that you will need some form of support. At the lowest level, this may mean arranging for a vehicle or plane to meet you at the end of the river. It is quite common for a kayak group to have a support vehicle meeting them each night.

I would like to stress how easy it is for the meeting place to be misheard, misinterpreted, misidentified or mistimed. Even on the best-organised expedition, things will go wrong; you may end up with a cold wet group huddling around a fire wondering where the support is. Precautions to take are a super-dependable support driver/leader; both river and support teams carry duplicate maps and mark off meeting points on these; the support team "flag" the river bank to ensure that the river team doesn't miss the "take out", carry emergency supplies on the river, and

have previously agreed contingency plans. Walkie-talkie radios can be very useful.

Reconnaissance
Consider how much local reconnaissance will be required before the trip – perhaps from the air or from the ground – and how many days will be needed for this. If you are planning a major expedition, a reconnaissance the year before may be a good cost-effective idea.

Portages
What are the likely and possible portages? How long will these take? What is the terrain and vegetation like? Plan on the worst case. Should you carry special equipment for portaging or a "walk out" if necessary? You may need climbing ropes to get out of gorges.

Contingencies
Do you need to inform anyone of your journey? What do they do if you don't arrive on time? What are the nearest access points if you have an accident? What do you do if you lose a boat? Don't forget adequate insurance.

Size of party
The rule that "less than three should never be" is a good one. It is strongly recommended that raft expeditions should normally have a minimum of two rafts. Groups of more than five or six boats get unwieldy and require more organisation on the river.

How long will it take?
Obviously, you should allow for delays in getting to and from the river, and allow for river portages. The main factors affecting how fast you travel on a river are the speed of the current and the difficulty of the water. Other factors are: how many hours you paddle (length of daylight); how fast you paddle (team morale and training); how often you have to stop to inspect rapids (difficulty of water, but also experience); head winds; bad weather; and the size of party (small groups travel faster).

As a rough guide for canoes and kayaks, it would be reasonable to plan on 20–40 km a day on rivers grade I–II. On grades III–IV, perhaps 10–30 km would be a more typical day. On more difficult water, grades IV–V, 4–10 km might be expected.
On more difficult water, rafts will probably keep up with kayaks. On flatter water grade I, for example, they will prove slow, and 15 miles

would be a more typical day's distance. This depends greatly on the speed of the current and winds.
Do not make the mistake of trying to paddle too great a distance in too short a time – one of the main delights of any river trip is the things to see and meeting people on the shore. The Grand Canyon, 220 miles in length, has been paddled in 2 days, but a more typical expedition would plan on 2 weeks, perhaps more, for a 200- mile journey, to allow for rest days, hikes ashore, scouting rapids, portages, etc.

ADMINISTRATION

Grant aid

For canoeing expeditions, the British Canoe Union operate a simple approval scheme and I would advise seeking their support at an early stage of planning. Specific grants are available for worthwhile canoeing expeditions. The earlier you apply for these while having adequate plans for an expedition, the better chance you have of success.

Sponsorship

Very few small river expeditions have been successful at getting major financial sponsorship from commercial companies. Many expeditions have found that without high level contacts in the boardroom this is a waste of time, being very time- consuming, and expensive in terms of postage and phone calls.

More worthwhile in terms of effort are grant aid, equipment sponsorship and personal sponsorship.

Boats make very good billboards for publicity, and a number of expeditions have had individual members personally sponsored by a company (perhaps the individual's employer) with a canoe in their house colours and a logo (they love this), and there are lots of good publicity opportunities in this for the sponsor and you. (In addition, as a publicity expense this is, of course, tax deductible, so you will want to make sure that if possible they are invoiced the full retail cost of the canoe and equipment.)

Permits

River running is recognised by most countries as a legitimate tourist activity, like cycling or trekking. If there are no restrictions on trekking or tourism, then usually there are no restrictions or special permission needed for river running. Note, however, that, if your river is very popular, the tourist authorities may have had to institute a river permit

system to restrict the tourist river-running numbers – for the Grand Canyon, the waiting list is now over 10 years.

TRANSPORT

Folding and inflatable boats are ideal for air transport and normally cause few problems. Modern short white water kayaks can usually be carried in the holds of most large airliners – if the airline carry surf boards and windsurfers, you should have no problems with kayaks. Baggage handlers actually prefer them to boards because they are much more robust.

Figure 29.4 Rigid canoes and kayaks will fit inside many small planes and can be strapped to the struts of float planes such as Beavers, or suspended underneath a helicopter (© Peter Knowles)

Manufacturers' recommendations on roof limits are of necessity cautious. Do not be tempted to overload your roof racks because this will seriously de-stabilise your vehicle and affect its road handling. Buy the best possible quality roof rack – ideally, four bars. Clamp these together lengthwise with wooden bars and U bolts. Finally, brace the bars diagonally to the back bumper so that they don't shift forward on emergency stops. Trailers geometrically compound the things that can

go wrong – they are fine for smooth highway travel but otherwise are probably best avoided.
With the notable exception of British Rail, canoes, kayaks, rafts, etc. can be carried as accompanied baggage on ferries and most trains, often at no extra charge. Less developed countries often accept them on the roofs of local buses.

SAFETY

Water is a “soft landing”, surprisingly forgiving, and river expeditions are much less dangerous than most people imagine. Accidents involving personal injury are more likely to occur off the water, e.g. road accidents, camp-fire burns, sprained ankles, etc.

Where serious accidents have happened on the water, most have been the result of lack of experience and, of course, of planning.
Equipment is usually only a minor factor. The most frequent killers on rivers are high water, cold, entrapment (especially trees) and weirs. On lakes, the biggest hazards are wind, and then cold.

Safety guidelines

- Be conservative in your choice of rivers – particularly the first one.
- Seek advice from local experts on river levels and difficulty.
- Allow yourself plenty of time to paddle the river, so that you are not in a hurry and do not have to paddle when tired.
- Don’t paddle what you can’t see – never hesitate to scout or portage.
- Do not underestimate how wet and cold you often get on a water expedition (this can be a killer), or the food necessary to “stoke up” energy and warmth.
- On a serious expedition each person when on the water should wear a buoyancy aid, knife and personal survival aid (in case of separation from the rest of the party or loss of boat).

Probably your most important possession is your passport; if this is carried on the river, it should be sealed in a clear waterproof pouch and carried on the person (around the neck or in a secure pocket) – not in a boat where I can assure you bad things can and will happen to it.

We recommend bright colours for boats, paddles and helmets so that you can more readily see a swimmer. Consider marking helmets and important gear such as paddles and cameras with orange day-glo tape:

the adhesives company 3M makes a stick-on film called Cal film used for the sides of police cars.

FURTHER INFORMATION

Sources

British Canoe Union
John Dudderidge House, Albolton Lane, West Bridgford, Nottingham NG2 5AS. Website:
www.bcu.org.uk
The national body. Provides advice on access and touring. Publishes *Canoe Focus* magazine bi-monthly.

Canoe Association of Northern Ireland
2a Upper Malone Rd, Belfast BT9 5LA.

Canoe Camping Club of Great Britain and Ireland
25 Waverley Road, South Norwood, London SE25 4HT Some overseas tours.

Chris Film and Video Ltd
Chris Hawksworth, The Mill, Pateley Bridge, Harrogate, North Yorkshire HG3 5QH Film and video hire of canoeing and rafting expeditions.

International Sea Kayaking Association
John Ramwell, 5 Osprey Avenue, The Hoskers, Westhoughton, Bolton, Lancs BL5 2SL. Tel: +44 1942
842204
Publishes newsletter and a number of information sheets.

Open Canoe Association of Great Britain
First floor flat, 12 Orwell Road, Dovercourt CO12 3LD For “open canoes” rather than kayaks.

Scottish Canoe Association
18 Ainslie Place, Edinburgh EH3 6AU. Website: www.scot-canoe.org

Welsh Canoeing Association
Frongoch, Bala, Gwynedd, LL32 7NU. Website: www.welsh-canoeing.org.uk

Training courses

Those run by national centres:

Canolfan Tryweryn
Frongoch, Bala LL32 7NU. Tel: +44 1678 521083, website: www.welsh-canoeing.org.uk

Glenmore Lodge
Aviemore PH22 1QU. Tel: +44 1479 861256

Plas Menai, National Outdoor Pursuits Centre for Wales
Llanfairisgaer, Caernarfon, Gwynedd LL55 1VE. Tel: +44 1248 67094, website; www.sports-council- wales.co.uk/plasmenai/welcomeplas.htm

Plas Y Brenin, National Centre for Mountain Activities
Capel Curig, Betws-y-Coed, Gwynedd LL24 0ET. Tel: +44 1690 720214, website: www.pyb.co.uk

Books
There are a huge number of books on canoeing and kayaking. The best British reference was re-published in 2002 – *Canoe and Kayak Handbook* – the official handbook of the British Canoe Union, published by Pesda Press. This has a good bibliography.
Other recommended up-to-date text books are:
Addison, G. (2000) *Whitewater Rafting: The essential guide to equipment and techniques.* Amsterdam: New Holland Publishers.
Ferrero, F. (1998) *White Water Safety and Rescue*. Pesda Press
Hutchinson, D. (2000) *Expedition Kayaking*. Globe Pequot Press. Mostly about sea kayaking.
Watt, A. (2002) Canoe, kayak and raft expeditions. In: Warrell, D. and Anderson, S. (eds), *Expedition Medicine*. London: Profile Books (for RGS–IBG Expedition Advisory Centre), pp. 325–39. Available from: www.rgs.org/eacpubs

Recommended guidebooks and narratives
Addison, G. (2001) *White Water – The world's wildest rivers*.
Inspiring coffee table book.
Cassady J. and Dunlop, D. (1999) *World Whitewater*.
A global guide for river runners. Deshner, W. (1998) *Travels with a Kayak*.
Prize-winning accounts of kayaking all over the world. Harrison, J. (2001) *Off the Map*. Summersdale Publishers.
Jordan, T. and Jordan, M. (1987) *South American River Trips*. Bradt Publications. Kane, J. (1989) *Running the Amazon*.

Knowles, P. (1998) *White Water Nepal*: *A rivers guidebook for rafting and kayaking*.
Good intro chapters on planning kayak and raft trips. Manby, D. (1999) *Many Rivers to Run*.
Accounts of river expeditions in exotic countries.

These books are available from Amazon and most are distributed in the UK by www.cordee.co.uk

Magazines
Canoe Focus
Bi-monthly magazine of the British Canoe Union, John Dudderidge House, Albolton Lane, West
Bridgford, Nottingham NG2 5AS

Canoeist
Stuart Fisher, 4 Sinodun Row, Appleford, Oxfordshire OX14 4PE. Website: www.canoeist.co.uk
The longest running independent British canoeing magazine – monthly. Sells foreign guide books.

Canoe/Kayak UK
Gunn Publishing, 179 Bath Road, Cheltenham GL53 7LY. Website: www.canoekayak.co.uk
Monthly, started in 2001.

Websites
www.ukriversguidebook.co.uk
A well-managed website that has articles and guides on overseas rivers.

For sea-kayaking see www.nigeldenniskayaks.com

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