

Whitehorse Canoe Club



'Paddling Since 1969'

Members' Book

**Version 4
Published 2023**

CONTENTS

INTRODUCTION..... 3
TRIP GUIDELINES..... 4
RIVER HAZARDS 9
RIVER GRADING 10
EQUIPMENT 12
RIVER SAFETY AND RESCUE 15
FIRST AID 16
KNOTS & Z-DRAGS 16
PADDLING LOG..... 16
APPENDIX 1: UNIVERSAL RIVER SIGNALS..... 17

Acknowledgement of Country

Whitehorse Canoe Club acknowledges the traditional owners of the lands on which we paddle.

We pay our respects to their Elders past, present and emerging.

We recognise the traditional owners' connections to the land dating back more than 60,000 years and pay respect to the ongoing living cultures of First Peoples.

INTRODUCTION

This document is a member's book for current and prospective members of the Whitehorse Canoe Club (WHCC) to refer to.

Paddling is a fantastic sport that can take you to beautiful locations, adrenalin making rapids and remote places. It may also take you to icy rivers in the middle of winter, to rapids which may challenge your skill level and to remote places far away from immediate assistance. The information contained in this booklet will help you to prepare for trips, to understand rivers better and to help you keep safe on the river.

All club activities are run with safety as a primary concern. Some club trips will be instructor led trips which are run by a qualified instructor. However the majority of the club's trips are 'peer' trips which means that there is no instructional or guiding structure and it is the responsibility of each member of the group to ensure the suitability of their equipment and themselves for the activity. Consequently we encourage you to read the members book and to constantly seek to improve your skills and knowledge. Most skills needed for a safe and enjoyable river trip are learnt by paddling with more experienced paddlers, practising and attending skills improvement courses.

Before you consider coming on a trip think about the following points:

The paddler

- Be able to swim confidently and be confident in water, even with the clothing you will wear paddling.
- Always wear a Personal Flotation Device (PFD) and a helmet. Be honest with yourself about your ability. Paddling a kayak/canoe on quiet water doesn't qualify you for more difficult trips or conditions.
- The waters of rivers demand knowledge and skill. Develop your paddling incrementally, preferably with people more skilled than yourself.
- Beware of cold water and weather extremes. Swimming ability and PFDs cannot counteract for long, the effects of very cold water.
- Be equipped for the conditions that could occur. Secure your spectacles, have appropriate footwear, allow for protection against the sun, wind and rain.
- Learn how to capsize, to rescue yourself and others and learn first aid, so that you are prepared for an emergency.
- Seek training.
- Don't drink and paddle. Alcohol slows your reaction time and can lead to hypothermia.

Equipment

- Make certain you have the right craft for the trip.
- Test new and unfamiliar equipment before taking on a trip.
- The craft must be in good condition before starting a trip.

TRIP GUIDELINES

Before trip

Knowledge of river

Take time to gather as much information as possible about any proposed river trip. A river is assessed by its gradient, the grade of the rapids, the width of the river and the volume of the water flowing down it.

Information on a river can be gained from the trip coordinator, along with the WHCC website which has various resources and links to help gain information on a river. Refer to the 'river levels', 'river maps' and 'useful links' sections of the website. Please note that rivers do change and the links and resources on the website are certainly no substitute for personal knowledge and experience of a river. Whitewater paddling is an adventure sport which carries with it inherent risks, you have to take responsibility for your own decisions and welfare.

Water temperature

Paddlers should make an assessment on potentially how cold the water will likely be and dress for the water temperature and not the weather.

During winter, rivers such as the Howqua, Mitta Mitta etc., are all extremely cold, (< 8°C). Your clothing must provide adequate insulation and/or water sealing ability for body warmth to be maintained. Spare dry clothes are recommended both in your boat during the trip and at the conclusion of the trip. Hypothermia can be a real risk.

Water flow or river height

The volume of water flowing down the river determines the intensity of most river features. As the water rises, water speed increases, river width increases, calm water sections disappear, and waves and holes may become larger. While rapids may be washed out and become less technically demanding at higher levels, swims and rescues are likely to take longer and be more dangerous.

Be aware that it is misleading to judge the river at the put in, since a small rise in a wide, shallow place will be multiplied many times when the river narrows. Also, try to avoid paddling a river that is still rising as there is no way to judge how high it will go.

For the purpose of kayaking, river heights are often referred to in one of four very broad categories:

- **Low:** The river is lower than preferable for kayaking. Many rocks are exposed which may damage boats. Flat sections requiring tedious amounts of still water paddling may be encountered.
- **Good:** The river is around a preferred height for kayaking. A paddler should be able to negotiate the river with minimal rock contact and maximum fun. River features are predictable and safe inspection of what's ahead is possible.
- **High:** The river is higher than normally encountered. Experienced paddlers enjoy all the river has to offer. Less skilled paddlers are fighting from eddy to eddy or have wisely opted not to paddle.
- **Flood:** The river has left its normal course of flow. Debris such as trees, animals and kayaks/canoes may be swept down. Rapids are unpredictable and an inspection, whilst highly desirable is often impossible.

Reliable gauge information is the basis for any water flow estimation. There are various river guide books and websites (the WHCC website contains links to other websites and online resources) which contain values for most rivers as to what constitutes a low, good and high level. The WHCC website has an interactive table which shows the water levels as stipulated on the Bureau of Metrology's website and which category the level falls into. The WHCC website also contains useful links to websites containing river and weather conditions. Refer to the 'useful links' page of the website.

Getting to and from the river

Driving to and from the river is often the most dangerous aspect of kayaking trips so please drive carefully. The following is a guide to help reduce risk.

- Car pooling not only reduces cost but allows the driving to be shared.
- Allow plenty of time to get there. This also allows the trip to start on time and prevents others from worrying.
- Some trips involve driving over rough dirt roads. Be aware of your driving and the limitations of your car's performance.
- Ensure your keys are with you at all times. Don't leave them at the wrong end of the river.
- Wait until everybody's car is started. Alone on the river bank with a flat battery is no way to end a kayaking trip.
- Ensure you have enough fuel for the car shuffle and the drive back to major towns.

River location and access

Most of the rivers the WHCC regularly paddles are well known whitewater venues in Victoria. This does not mean that the start and finish points of the trip are easy to find. Often they are a substantial drive from the nearest town via challenging country roads. Good maps and sound advice are necessary. Maps of the most popular rivers showing access points, including emergency access, main rapids, hazards, access roads and other relevant information have been produced by the club and are available for downloading from our website.

Only a few rivers require 4WD access to the put in and pull out after local rain or snow. However, road access is often limited to 4WD tracks between the put in and pull out along the sections to be paddled.

How much prior knowledge of the river environs you should have depends on the general location of the river itself. For example:

- A quick look at a map of the regular King river paddle will show that main road access is less than 1km to the east at all times whilst on the river. This presents an easy walkout if misfortune strikes.
- Rivers such as the Indi, Mitchell, Mitta Mitta, etc., flow through large gorges in wilderness areas. A walkout there could take a day or more if you know where you are.

Time spent on the river

Most club trips involve a whole day's paddling. Actual paddling times vary widely between individual groups, depending on factors such as number of paddlers, skill level, food/rest stops along the way and the flow rate of the river. Be aware that any swims/incidents may add significant delay. Overnight trips involve extra gear being stowed in the boat; this can affect the boat's balance and performance.

Water quality

Some rivers, such as the Indi and Mitta Mitta, can flow with extremely pure water. Near Melbourne waterways such as the Yarra and Maribyrnong are unsuitable for drinking. The Thomson River is said to leach small amounts of remnant chemicals used by early mining techniques. Still others such as the Delatite and Yea rivers are susceptible to mud or farmland runoff that make the water unsuitable for drinking.

There are many factors influencing the quality of water in a river at a particular time, so unless you know otherwise, it is generally recommended that drinking water be carried, obtained from a known clean origin.

Risk management

Risk management is an important part of planning a trip. Risk management involves assessing the risks to a particular trip, for example these may include cold weather and water, log jams/strainers or sieves, running out of day light, equipment breakages, paddler with the lack of skills for the river level etc. A risk management process is then conducted, assessing the likelihood and the consequence of the risk and putting in place controls to reduce the likelihood or consequences.

What to take on the trip

Apart from your kayak/canoe you will need your standard paddling equipment, paddle, spraydeck, PFD, helmet and clothing. Further information is provided in the section on equipment. Make sure you have sufficient food for the trip. A thermos of hot water can be very welcomed on a cold day and energy food is always good to have for when you start getting tired. You should also carry a small personal first aid kit, spare warm clothes, emergency food, matches, space blanket or similar, etc. Don't forget to bring dry bags to keep everything dry. You should aim to be self sufficient and have sufficient gear to look after yourself. You should also think about investing in a throw rope and rescue equipment and learning how to use it properly. Remember that the throw rope won't help you if it's left at home or in the back of the car. Also for day trips where access/egress is difficult, a map, compass and shoes are good insurance against an unexpected overnight stop or walk out.

Trip coordinator

The trip coordinator is responsible for coordinating the trip and will advise potential paddlers of information such as:

- The time and location of the meeting point.
- On the general river conditions, water level and temperature.
- The time expected to run the river.
- Car pooling arrangements.
- Suggested clothing, equipment etc.

The trip coordinator is not 'leading' the trip and you must be responsible for your own decisions on the river. However an assessment of the competence of the people expressing interest in the trip will be conducted and those who's skill level is unsuitable will be advised not to attend and given advice on more suitable trips.

Trip notification

If the trip is into a wilderness area for any period, plans should be filed with a responsible person who will contact the authorities if paddlers are overdue. WHCC has a trip intentions form. Refer to *Guidelines for Trip Coordinators and Trips* document for the form along with guidance as to when it may be needed. The trip coordinator will organise for the trip intention forms to be completed for trips where this is required. The intention form will ask for information on any relevant medical conditions. Knowing the location of potential help and preplanning escape routes can speed rescue and is part of the trip planning.

On the river bank

The meeting point for any particular river is designated by the trip coordinator.

One of the most complex events of a river trip is organising the car shuffle. The idea is to get all the boats, equipment and people to the start of the trip in as few cars as possible. This leaves most of the cars at the egress point at the trip's end. The drivers whose cars are now at the 'put in' point are then transported legally and safely to collect their vehicles.

The trip coordinator should ensure that all paddlers know the following:

- The approximate level of skill and experience of each of the paddlers (i.e. who is novice, advanced etc.).
- Who can live river roll on this grade of water.
- Who has paddled the river before and at what level.
- What are the significant dangers to look out for and at what stage of the trip will they appear.

For large groups, it is suggested that one of the stronger, more experienced paddlers take on the role of sweeper. This means being the back marker of the group. This person would be the last paddler to go through a rapid, and would ensure that nobody falls behind them whilst on the river. Key checks, reviews and briefings to undertake on the river bank include:

- **Gear check:** Who is carrying what in their boat? Are there adequate numbers of first aid kits and throw ropes and people who know how to use them? Identify who is competent at CPR (Cardiopulmonary Resuscitation) amongst the group. Establish the level of experience in river rescue.
- **Car key check:** Are all car keys where they should be? Will they be available when needed? Have they ended up at the wrong end of the river in the confusion of the car shuffle?
- **Food and water check:** Exhaustion and dehydration are problems on longer trips. People may need to be reminded to eat and drink if the excitement of the whitewater gets too much.
- **Safety review:** At the beginning of each trip, some form of safety related practice should be undertaken by the group. Things such as CPR, throw bag technique or basic paddle and whistle river signals (see Appendix 1 for river signals used by the WHCC) will be reviewed on the river bank before setting off.
- **Standard safety briefing:** A standard safety briefing has been developed to assist trip leaders with the briefing on the river bank. The standard safety briefing is a guide only. It is designed to act as a memory prompt and to encourage consistency in briefings.

On the river

Compact group

Groups are safer when compact, but paddlers should maintain sufficient spacing to avoid crowding. If the group is large (greater than 10) consideration should be given to dividing into smaller groups or using a 'Buddy System'.

Pacing

The lead paddler sets the pace by taking into account many factors such as; general skill and fitness level of the slower paddlers, distance to the designated egress point, daylight hours left, etc. No paddler should ever run drops when they cannot see a clear route to the bottom or, for advanced paddlers, a sure route to the next eddy. Let an experienced paddler go first down unfamiliar rapids

Kepping track of all group members

It is important that each boat keeps in contact with at least two boats behind, stopping if necessary. Know how many people are in your group and take head counts regularly. No one should paddle ahead or walk out without first informing the group. Weak paddlers should be kept at the centre of the group, and not fall to the rear.

Right of way / courtesy

In general, the upstream paddler has right of way. Never cut in front of a paddler shooting a rapid. Always look upstream before leaving eddies to run or play. Before shooting a rapid make sure the previous paddler is safely through and allow the upstream paddle to come down before going in to play on the rapid.

Reading the river

The more experienced and stronger paddlers should consult and decide on the best and safest way for other paddlers to attempt a tricky rapid. Paddlers are encouraged to offer advice and guidance for the independent consideration and judgement of others. However the decision to paddle any rapid is the responsibility of the individual.

Signalling

This should be used to control the parties progress through technical sections of the river, and to advise paddlers of the line to run and where they should cut out and regroup (refer to Appendix 1).

Running safety

On more dangerous features, it is advised that the river section be viewed from the bank to find a suitable line and also to set up a system of safety involving the positioning of competent people with throw lines or boats.

Observing welfare of self and others

Hypothermia, dehydration and exhaustion are potential dangers for paddlers. They affect us, sometimes without our awareness and the outcome may be serious. It is therefore important to be vigilant and to assume the authority to act when you sense that your own or someone else's welfare is endangered.

Portaging

There are bold paddlers and old paddlers but no old, bold paddlers! Portaging is no crime or disgrace, it is a ticket to years of enjoyable paddling. Individual paddlers are ultimately responsible for their own safety and must assume sole responsibility for their decisions. Paddlers should resist pressure from anyone to paddle beyond their skills and ability. When in doubt, stop and scout. Your PFD and helmet provide warmth and good protection against falls when portaging or inspecting rapids. Leave them on when scrambling around rocks and in the bush.

After trip

Paddlers will be tired after touring the longer rivers, and the risks of fatigue are high on the drive back home. Planned stops for meals and coffee along the way back are both sociable and good ways of reducing this risk.

People who appear to be at risk of fatigue should be discouraged from driving. Instead arrange an alternate driver, stop for a power nap or take an overnight stay. Car pooling allows for rotation of drivers.

Trip reports and photos are published on the club's website under 'Stories'. Often videos and slide shows from trips are posted on YouTube under Whitehorse Canoe Club.

Minimum environmental impact

The WHCC wants to leave all of the sites that it uses in the same or better condition than they found them. Many of the river lunch and camp sites don't provide large areas away from the water.

Remember that when going to the toilet:

- Beaches are used for lunch stops and camping by us and others. Carry a small hiking spade so that all excrement and toilet paper can be buried approximately 15 cm deep.
- National Parks guidelines recommend 100 m from the water. **TRY TO GET AS FAR AWAY AS POSSIBLE** and downstream of the campsite.
- Take **ALL** food scraps and packaging home with you.

Surfing in the ocean

Whilst this can be a fun activity, especially over the summer months, it can also be very dangerous.

- Don't go out into large dumping surf.
- A point break or reef break is generally safer than a beach break
- Don't upset the owners of the waves (i.e. surfers), by getting in their way.
- Never surf alone and make sure all paddlers are practised at deep-water rescues.
- Some beaches have strong rips and undercurrents that can be treacherous if you come out of your boat.

Having a reliable roll isn't enough. Whilst it is sometimes easier to roll in the surf than on rivers, some breaking waves can carry you upside down for a considerable time, exhausting you, and foiling attempts to roll up. Also, waves breaking on a boat side-surfing can pop spraydecks leaving the paddler helpless to prevent their boat from filling with water.

RIVER HAZARDS

Whitewater rivers contain many hazards which are not easily recognised. The following are some features worth knowing.

High water

Generally as the river flow increases the speed and power of the water increases, increasing the difficulty of the river. As the level rises, eddies may become washed out making it difficult to scout or portage rapids. Rescue becomes progressively harder. Often in these conditions, the river will be passing through the trees on the banks creating continuous strainers down either side of the river.

Cold

The biggest danger is hypothermia. Cold drains your strength and reduces your ability to make decisions on matters affecting your survival. Sudden immersion in cold water is especially dangerous because of the initial shock and rapid heat loss. Beware of cold in others, particularly those sitting around in eddies whilst other paddlers are playing. Cold can also be caused by a lack of food which decreases the body's heat production. If you start to feel cold or notice others becoming cold a high energy food, such as a muesli bar, and/or some brisk paddling or exercise may quickly solve the problem.

Stoppers

A hole, hydraulic, pourover, call it what you will, is formed as water flows over a submerged object, such as a ledge or boulder, creating a reverse current which tends to trap and hold a buoyant object. These can be great fun to play in but are sometimes very difficult to get out of. Large holes can hold boats and bodies for long periods of time.

Weirs

Despite their benign appearance they can create almost escape proof traps and are often difficult to spot from upstream. Man-made weirs generally form a uniform stopper which is often enclosed by vertical walls on either side. Once stuck in one of these it is almost impossible to paddle out. Many people have drowned in such weirs. Treat any weir with the utmost respect.

Strainers

Often formed by fallen trees and debris accumulation, a strainer is an obstacle that allows water to flow through, but not a boat or person. Anything trapped against a strainer can be subject to very large water pressures, often making rescue extremely difficult. Strainers are particularly prevalent in flood conditions.

Pinning and entrapment

A boat is pinned (or broached) when it wraps sideways around an obstacle, such as a boulder, bridge pier or tree. This can cause the boat to collapse and/or fold, trapping the paddler. A vertical pin occurs when the bow of the boat becomes stuck on the riverbed. It is most common on steep, technical rivers or creeks. The danger here is the paddler becoming trapped in the boat by either the boat folding or by the sheer force of water on their back. Entrapment is when a person is held in a life-threatening position by the force of the water or a collapsed boat. The most serious case is when the paddler is trapped underwater leaving little time to effect a rescue. Even without entrapment releasing a pinned boat can be very time consuming and dangerous.

Here is a link to some hazards we've encountered on trips:

<http://www.youtube.com/watch?v=Qwlu--j5hmo>

and a nasty hydrolic on the Eucumbene River, New South Wales

<http://www.youtube.com/watch?v=GwT6XBCYYTQ>.

RIVER GRADING

River grades are somewhat vague as they have to cover a wide range of rivers from steep technical rivers to large volume water. Individual and regional interpretations of a river's grade are very subjective. Beware of under-grading and over-grading! If you're paddling in an unfamiliar area try to get a feel for the way the grades are interpreted locally.

Remember the grade of a river may change with varying water levels, geological disturbances and fallen trees. The grades do not apply to rivers in flood.

River grading is not influenced by the geographical location of the river. Factors such as remoteness, access, water and air temperature will all influence a paddler's perceived seriousness of a river.

The International River Grading System

Grade 1: Easy

Fast moving water with ripples and small waves. Few obstructions, all obvious and easily missed with little training. Risk to swimmers is slight, self-rescue is easy.

Grade 2: Novice

Straight forward rapids with wide, clear channels which are evident without scouting. Occasional manoeuvring may be required, but rocks and medium sized waves are easily missed by trained paddlers. Swimmers are seldom injured and group assistance, while helpful, is seldom needed.

Grade 3: Intermediate

Rapids with moderate irregular waves that may be difficult to avoid and can swamp an open kayak/canoe. Complex manoeuvres in fast current and good boat control in tight passages or around ledges are often required; large waves or strainers may be present but are easily avoided. Strong eddies and powerful current effects can be found, particularly on large-volume rivers. Scouting is advisable for inexperienced parties. Injuries while swimming are rare, self-rescue is usually easy but group assistance may be required to avoid long swims.

Grade 4: Advanced

Intense powerful but predictable rapids requiring precise boat handling in turbulent water. Depending on the character of the river, there may be large unavoidable waves and holes or constricted passages demanding fast manoeuvres. A fast, reliable eddy turn, may be needed to initiate manoeuvres under pressure. Rapids may require 'must' moves above dangerous hazards. Scouting is necessary the first time down. Risk of injury to swimmers is moderate to high, and water conditions may make self-rescue difficult. Group assistance for rescue is often essential but requires practised skills. A strong Eskimo roll is highly recommended.

Grade 5: Expert

Extremely long, obstructed, or very violent rapids which expose a paddler to above average endangerment. Drops may contain large, unavoidable waves and holes or steep, congested chutes with complex, demanding routes. Rapids may continue for long distances between pools, demanding a high level of fitness. Any eddies that exist may be small, turbulent or difficult to reach. At the high end of the scale, several of these factors may be combined. Scouting is mandatory but often difficult. Swims are dangerous, and rescue is difficult even for experts. A reliable Eskimo roll, proper equipment, extensive experience, and practised rescue skills are essential for survival.

Grade 6: Extreme

One grade more difficult than Class 5. These runs often exemplify the extremes of difficulty, unpredictability and danger. The consequences of errors are severe and rescue may be impossible. For teams of experts only, at favourable water levels, after close personal inspection and taking all precautions. This grade does not represent drops thought to be unrunnable, but may include rapids which are only run occasionally.

EQUIPMENT

General

Boats, paddles, clothing, personal safety gear, etc., all fall under the term 'equipment'. The difficulty and location of the river and the time of year influence the choice of equipment on a particular trip. Inadequate equipment can cause problems on a river. The few dollars saved buying cheap equipment, will not look like a good purchase if it fails when needed. This is especially true for safety items such as helmets and buoyancy aids.

It is the responsibility of the individual paddler to ensure their equipment is suitable and fit for the task in hand. They should also know how to use it. Test new and different equipment under familiar conditions before relying on it for difficult trips. This is especially true when using a new boat.

Boats

Whitewater kayaks are predominantly made of plastic. Kayaks come in all shapes, sizes and colours. The type of river (big volume, steep creeks, touring, play boats etc.) and the skill (and size) of the paddler all influence the choice of boat. Being the most important and expensive piece of equipment you have to buy, it is wise to decide exactly what you really want before you make a purchase. The club has available a number of boats to hire until the purchase decision is made. Ask other paddlers for their opinion and have a go in their boats (if they'll let you) or borrow demo boats from canoe shops. Consider the safety aspects of different boats. Those with keyhole cockpits are much easier to get out of in an emergency. There is no ideal boat and whatever you choose will be a compromise of your requirements.

Be sure your boat and gear are in good repair before starting a trip. The more isolated and difficult the trip, the more rigorous this inspection should be.

Outfit your boat safely. The ability to exit your boat quickly is an essential component of safety. Make sure there is absolutely nothing to cause entrapment when coming free of an overturned boat. This includes:

- Correctly fitting spraydecks.
- Seat padding too tight to allow a fast exit.
- Footbraces which fail or allow your feet to become wedged under them.
- Inadequately supported decks which collapse on a paddler's legs when a boat is pinned by water pressure.
- Loose ropes which may cause entanglement.
- Throw lines, must be completely and effectively stored.
- Do not knot the end of a rope, as it can get caught in cracks between rocks.
- Boats should have grab loops at either end of the deck. Many modern boats have points to attach carrabinas.

Paddlers should fit air bags to their boats. These significantly reduce the likelihood of a pinned boat collapsing and provide additional flotation making swimming with the boat and retrieval easier.

Paddles

The choice of paddle often comes down to cost. Expensive paddles are generally stronger and more durable than cheaper versions. A paddle comprises a shaft and a blade(s). The shaft is often made from carbon fibre, fibreglass or metal. Metal will be colder on the hands and heavier than carbon fibre. Blades may be made from carbon fibre, fibreglass, kevlar or plastic. Carbon fibre and Kevlar is strong and rigid while plastic tends to be more flexible. It all comes down to personal preference.

Buoyancy aids/PFD

This is not a life jacket and does not keep an unconscious persons' head above water. Buoyancy aids are an essential piece of equipment and should be worn at all times. There are many different styles on the market. As well as giving some flotation they also provide padding, protection and some thermal insulation to the torso. For typical whitewater use, the following features are recommended:

- Ensure a snug and comfortable fit with a tight waist band. When in the water it shouldn't lift up over your head.
- A sewn on webbing tape harness going over the shoulders. This is very important in difficult rescue situations.
- Quick release towing rope system (optional but check that the release works quickly!).
- Pockets for sunscreen, snack bars and rescue gear (optional).
- Bright colour will help you to be seen if you swim.
- A pealess whistle able to be used when wet must be attached to the PFD.

Helmets

Helmets are another essential piece of equipment which should be worn at all times. There are numerous kayaking helmets on the market some of which offer little in the way of protection. Ideally a helmet should protect the top and back of your head and your temples. It needs to be comfortable and have good drainage (or not let the water in). Options worth considering are sunvisor attachments and face guards.

Spraydecks

Purchase a spraydeck designed to fit your boat. It should have a strong tight fit around the cockpit so that it won't release prematurely. Ensure that it will release reliably and that the release strap is securely attached.

Clothing

This very much depends on the climate and the water temperature (and your likelihood of swimming). Whitewater canoeists are normally constantly damp or wet (unless they're in a dry suit) and may be immersed in very cold water. Maintaining the body's core temperature is important on cold days and cold rivers. On hot summer days with warm water, avoiding sunburn and sunstroke are the main considerations and the outer layer is often dispensed with. Dress for the water not the weather. Clothing to wear include:

- **Outer layer:** A waterproof kayaking jacket (cag) with neoprene or latex neck and cuffs is usually worn. This will not keep you bone dry but keeps wind and spray off the body. It should be comfortable when worn over the inner layers. Modern paddling clothing includes an outer layer to repel water and a soft inner layer for warmth.
- **Inner layer:** Use clothing that stays warm when wet. Cotton is definitely out. Wool, polypropylene pile/thermals or wetsuits are most commonly used. Anyone who expects to swim should consider sticking with a wetsuit which reduces the flow of cold water over the skin when immersed. Note a wetsuit is designed to keep the person wearing it warm when immersed in water (subject to the thickness relative to water temperature). It will not keep the person dry and hence when the person is not immersed in the water they may be exposed to cold, particularly on cold windy days, where windchill may lower the body temperature. If wearing a wetsuit it is important to consider wearing a outer layer such as a cag (see above), or consider a wetsuit with thermal properties on the inside, or alternatively wear thermals underneath.

- **Footwear:** Neoprene booties with a rubber patterned sole are most commonly worn. These are not ideal when bashing through the bush during portages for instance. Runners or sports sandals worn over woollen/neoprene socks are useful and can be stored in the boat while paddling.
- **Headwear:** In cold conditions, a skull cap made of neoprene, water repelling outer/thermal inner material or thermal hat or balaclava will help keep you warm.
- **Handwear:** Various methods have been used to keep hands warm in cold conditions. Gloves, either full gloves, fingerless or palmless can be used. It is worth noting that gloves can alter the feel and grip on the paddle effecting paddler's performance and ability to perform manoeuvres such as eskimo rolls. So worth trying before going on a paddle where they might be needed
Another alternative are 'pogies' a type of gauntlet that is attached to the paddle. 'Pogies' enable the paddler to grip the paddle directly with their hands. This enables the paddler to experience no difference in the grip and feel of the paddle. However, the paddler must insert their hand into the 'pogies'. As such it is worth trying the use of 'pogies' in a situation you are comfortable with before using in situation where required.
'Pogies' can be made from various materials but the main purpose is to keep the wind off the hands. As an alternative to handwear, some paddlers have applied lanolin to the back of their hands in an attempt to keep them warm.

Safety equipment

There is a huge variety of safety equipment available, none of which is worth carrying if you don't know how to use it. Before setting off on a trip make sure that everyone knows who is carrying which piece of gear. This also avoids the situation where an essential item is missing because everyone assumed somebody else was carrying it. Also if you are carrying only one of something, the boat that gets pinned may have the vital piece of equipment to recover it. So share the gear around and have more than one item.

Some gear should be carried by each paddler and other gear should be carried by a couple of members depending on the group size, river paddling etc.

The following is a suggested list of equipment that a group should carry on a typical river and is by no means definitive:

- First Aid kit.
- Throw ropes.
- Knife.
- Carabiners.
- Prusic loops and climbing slings.
- Matches and firelighters.
- Map and compass.
- Split paddle(s).
- Gaffa tape/duct tape/T rex tape.
- Torch.
- Space blanket or similar.
- Spare thermals.

Other items that should be considered are:

- EPIRB.
- Pulleys.
- GPS.
- Mobile phone/satellite phone.
- UHF radio.
- Paddle clamp.
- Tow rope with quick release.
- Folding saw.
- Static rope (length may depend on the width of the river).

The following is a list of gear that each paddler should be carrying:

- Whistle (pealess able to be used when wet)
- Food.
- Spare warm clothing.
- Plastic bivvy bag/space blanket.

Throw ropes may be carried in the boat or a buoyancy aid pocket. It is important to know how to use them as people have drowned as a direct consequence of misuse. They also make good clothes lines for wet kayaking gear at the end of a trip. Many of the other items are carried in dry bags inside the boat. Dry bags are not totally waterproof (read the small print on the manufacturer's instructions). Knotted rubbish bags inside a protective nylon bag are another (cheaper) option.

A snorkel or short piece of hose could be very useful as a pinned paddler's head may be just below the water surface. This could buy them time when effecting a rescue.

Ultimately the choice of what equipment to carry is each paddler's responsibility but remember it is your responsibility to carry gear to look after yourself.

Roof racks

Car roof racks must be strong and attached positively to the vehicle. Tie your boat to each crossbar, and consider tying the ends of the boats to each other for added safety.

RIVER SAFETY AND RESCUE

Self-rescue

Practice self-rescue, including escaping from an overturned boat. The Eskimo roll is by far the best way to recover from any capsize, especially in cold water conditions. If there is imminent danger of being trapped against rocks, trees, or any other kind of strainer whilst capsized, exit the boat.

Swimming

If you swim, hold on to your boat and paddle, if safe to do so. Holding on to the boat should offer additional flotation and is easier for rescuers to spot. Always hold the upstream end so that you cannot be crushed between a rock and your boat. As a paddle can be easily lost, try to hold on to your paddle until a rescuer can grab it off you. However if rapids, or other dangers, are approaching, the main focus should be on your personal safety and not equipment. Let go of the boat if more rapids or dangers are ahead.

If swimming in white water (aerated) float on your back with your feet downstream and on the surface. Use backstroke to manoeuvre. If you are floating down a wave train try to breathe in the troughs and not on the crest of the wave. If you are heading for a drop, pull your knees to your chest and hold on until you are washed through the hole. When the white water stops you can roll over onto your chest, keeping your feet on the surface and actively swim to safety. **Do not attempt to stand up until you are in an eddy.**

If others spill and swim, go after the swimmer first. Retrieve boats and equipment only if this can be done safely. While paddlers are encouraged (but not obligated) to assist one another to the best of their ability, they should do so only if they can, in their judgement, do so safely. **The first duty of a rescuer is not to compound the problem by becoming another victim.**

Safety and rescue skills

Safety is unfortunately the most overlooked aspect of our sport. The WHCC encourages all paddlers, beginners and experienced, to learn and practise rescue and safety techniques on river trips.

There are various resources on river safety available both on the internet and through books which are well worth looking at. There are also various river rescue courses available.

FIRST AID

There are few things in life more traumatic than watching a friend suffer or die while you watch not knowing what to do. To become competent at First Aid you must practise, the more you do so, the better you will become. The best place to learn is at courses run by organisations such as Red Cross, St. Johns Ambulance Service and Surf Life Savers. First Aid knowledge becomes particularly important when paddling rivers in remote areas where outside assistance could take a long time to arrive. Due to the nature of paddling learning CPR is particularly important.

A first aid kit should be carried on all rivers. First aid situations that may arise on a trip include:

- heat stroke
- snakebite
- shoulder dislocation
- hypothermia
- drowning
- cuts/bruises/broken bones (during portages).

KNOTS & Z-DRAGS

Various knots, equipment and mechanical advantage systems are useful to affect rescues or recover boats. Attend a river rescue course to learn how and when to use equipment. Experienced members will also be able to demonstrate various techniques and give you advice. It is important to practice any skills learnt and make sure you are proficient.

PADDLING LOG

It is worth considering maintaining a paddling log of paddles you have been on. This can help track your progression and also be used as a reference tool down the track and contribute to your paddling knowledge. Aspects to consider keeping in the paddling log for each paddle include: date, river, section, water level, who went, length, time duration of the paddle, comments on the experience of the paddle, any incidents and hazards and/or anything that could be learnt from the paddle and applied to future paddles. Paddle Australia has an online paddle log which may be used for this purpose.

<https://paddle.org.au/education/paddle-log/>

APPENDIX 1: UNIVERSAL RIVER SIGNALS

Hand signals

- **Stop:** Paddle is held horizontally above the head or both arms outstretched.
- **Go:** Paddle is held vertically or one arm is raised (note that a person in the water with one arm raised probably requires help).
 - The direction of the paddling line is indicated by angling the paddle in that direction.
- **O.K.:** Place one hand on your head.
 - This may be asked as a question and if you are O.K. reply with the same signal.
 - This signal may also indicate that the line ahead is clear, pass the signal on to paddlers behind you.
- **Come quickly:** paddle is held vertically and waved quickly (if you do not have the ability to assist it is better to remain where you are safe.)

Here is what the paddle signals and hand signals look like:

<http://www.youtube.com/watch?v=Xd1XqkAFwfo>

Whistle Signals

- **Stop:** One blast.
- **Go:** Two blasts.
- **Come quickly:** Three blasts blown repeatedly.