Advanced White Water Safety and Rescue



Heading into an advanced white water environment presents diverse challenges for a group of paddlers. Alongside the dynamic decisions that the paddlers must make, they also require a range of personal skills, teamwork and also safety and rescue techniques to help them navigate this potentially hazardous environment. Having experience of successfully paddling and performing rescues in lower grade white water will be beneficial before venturing into more advanced white water. Taking time to practise techniques in a less consequential environment will allow you to develop your experience before applying them to a more challenging situation.

It would be highly beneficial to be familiar with the safety and rescue techniques contained in these other documents, which complement the topics covered in this resource.

Introduction to white water safety White water hazards and features White water safety and rescue

Preparing for advanced environments

The decision making process that we must ensure we go through for an advanced environment is essential to our success, effective planning and preparation needs to happen to ensure that we are ready for our time on the water.

Any group of paddlers on advanced water should take account of:

The personal skills of the individuals and the skills of the group

- What experience do you have in this environment and how current is this?
- What experience do the group members have in this environment and how current are they?
- How strong do you feel physically and mentally?
- As a team, are your goals aligned closely enough so that you can work together to achieve a safe outcome on the water?

The current and recent weather conditions

- How will this affect the water levels?
- Will the water levels be low/medium/high? How do you know this and how accurate is that information?
- How will the water level affect our overall plan or individual goals?

The potential challenges along the way

- Rapids
- Features
- Hazards
- Possible portages





Rescue and Emergency planning

- What rescue skills and experience do you have?
- What equipment do you have within the group?
- Do you have the ability to locate and call for help?
- What would the best evacuation points be?
- Do you have the ability to support a casualty and the group in the event of an emergency?

Is the group and the environment suitably matched?

- How do you know this?
- What choices can you make if you are not suitably matched?

Decision making in an advanced environment is dynamic and ongoing and a team approach should be utilised to ensure that all paddlers are safe and supported as best possible.



Paddling on advanced white water

Advanced white water presents a range of challenges which can be very different to simpler environments. This means that, as paddlers, we need to be prepared to manage more challenging features and situations.

Scouting

Advanced white water typically needs more bankside inspection than is required for lower grades. As your experience increases, it will become possible to do this quickly and efficiently and it may even be possible to scout more than one section of white water at a time, allowing the group to keep the flow in their paddling. You should be looking for eddies that will allow you to exit the water to the bank as easily as possible without committing yourself to running the rapid that lies below. In some situations, it may be possible for just one person to scout the rapid and to pass the information on to the team, but in other circumstances it is required that the whole team observe the rapid and, if required, set up safety cover. If in doubt about an upcoming rapid that you cannot see properly from your boat, scouting is always a good idea.

Horizon Lines

Steeper rivers will generate more frequent horizon lines as the gradient increases, meaning that the white water and its features/hazards can be unknown from above. Bear in mind that horizon lines can mask things such as rocks, trees and recirculating stoppers and the line choice you may think is correct from above could be very different to the one you would make if you could see what lies below.



Blind Bends

Some advanced rivers will have features or rapids that move around a corner where you cannot see the whole rapid and can easily lose contact with the rest of the team. Dropping into a feature or around a corner which is unknown on any river presents risk to the paddler, so positioning someone to maintain line of sight or for safety cover could be critical. This is often easily done either from the bank or from a boat and can allow signals and communication to be passed back up the river.

Portaging

Making the decision to portage around a section of white water is often required on advanced water as the group or individuals may decide that, based on the situation in front of them, they simply do not wish to paddle the rapid on this day, or cannot see a successful outcome on the rapid. This could be for a range of reasons which may be physical, mental or skill based or that the individual/group decides that the risk of paddling it outweighs the reward.

Moving quickly where possible

Managing all of the situations mentioned above can slow a group down dramatically and, in some situations, even paddling just a few kilometres of white water could take a long time. Where possible, a group should aim to be efficient when moving on less advanced water which will allow them the opportunity to easily manage time consuming tactics such as scouting and portaging. Moving efficiently, where possible, will help you to avoid making rushed decisions later on the river where you would really appreciate more time.



Steep environments



The terrain surrounding an advanced environment is often challenging, including steep/slippery ground and exposed paths which may require additional techniques to manage them. The difficulty of moving any craft in this situation also presents specific challenges and having a simple understanding of how to lower a boat or set of a simple handrail with a rope can be beneficial. We should always aim to be looking for the low risk options when navigating this advanced terrain and, where possible, avoiding using these tactics if possible. If using ropes to aid with our security on steep ground, we should aim to not need to rely upon them fully but to use them to support us where a slip or trip could have consequences.

Anchors and Rope Management

Whenever we use an anchor with our ropes we should ensure that they are always appropriate for the task. If using a tree as an anchor, we want to ensure that it is well rooted, secure in the bank, in good healthy condition and that we use the base of the tree rather than higher up. If using a rock/boulder as an anchor, we should ensure that any rope/sling cannot slip under/over/off it when loaded and that it will not move in use. Should we not be able to find a suitable anchor, then we must come up with another alternative solution to our problem. Taking time to manage our ropes and ensure that they are knot and tangle free will make their use much easier and also safer. Laying the rope out onto the floor when we need to use it to ensure it runs smoothly is very beneficial.







Lifting/Lowering a boat

We can use a rope to lift or lower our craft in a steep environment where carrying it by hand would not be possible. Simply by taking a rope around a tree or boulder will create enough friction to give you assistance when lowering by hand. If doing this, do take care not to allow your rope to snag onto tree roots or into a crack on/under a boulder. An alternative option could be to create an anchor using a tape/sling and to use an Italian hitch with a karabiner to assist with controlled lowering.

When raising a craft in a steep environment, simple methods can typically work, such as pulling by hand (potentially with multiple people). It is also possible to add friction or a mechanical intervention to allow for loads to be managed more effectively.

Handrails

A handrail can give a paddler moving up or down steep ground extra confidence and can help to avoid a slip. It is important that the person using the handrail recognises that it is in position to give assistance/confidence rather than to help in the event of a fall.

Loose terrain

Be mindful of dislodging rocks and debris from above onto others below when operating on steep ground. Always keep helmets on and ensure that the area below you is clear before moving/descending/lifting/lowering.



Stuck people



Avoidance

We should do our very best to avoid having to manage any form of entrapment situation. Making safe decisions when paddling, being able to stay upright and in our craft when it counts, and swimming safely with your feet/hips/hands up by the surface of the water will help to minimise the chance of becoming stuck in the river. Practising safe swimming in a controlled environment will ensure that, if it happens for real, you can be effective at self rescue.

Initial Assessment

When it comes to rescuing a stuck paddler, swift action is required, every entrapment situation will be completely different so having a series of options available to use rather than a progression to work through will be best. Ideally, we want to help the paddler stabilise themselves, keep their head above the water and then, if possible, free themselves. If needed, rescuers can physically offer assistance to then help remove them. It is essential that any paddler giving assistance in this situation considers their own personal safety, as offering assistance to the stuck paddler could put them at serious risk of harm.

Access and Rescue Options

We should consider the potential risks posed to the rescuers to access a stuck paddler and some options offer significantly higher risks:

- Throw a paddle to give them something to stabilise/push off
- Throw a throwline for them to hold onto or clip to, allowing the rescuers to then offer support from above
- Paddle out
- Wade out
- Tethered swim to gain access
- Ropes clipped together and deployed over the trapped paddler, allowing rescuers to then offer support from above

Stopper Rescue

If a paddler is being held in a stopper, we can also consider clipping our paddles to a throwline to give the person stuck in the stopper something to grab hold of. Throwing our paddles to someone in a stopper like this is higher risk, but may be very effective in certain circumstances.



Incident Management



Due to the nature of advanced environments they could be more remote, harder to evacuate from and emergency assistance may not be as quickly available. This means it is a group's responsibility to manage a situation, support an injured paddler to feel as comfortable as possible and to keep everyone protected from the environment. In some situations it may be required to help a casualty to move a short distance or to simply remain in location and wait for emergency services.

Protecting from the elements

When managing an incident, we can often be helping to protect an injured paddler from getting colder and developing hypothermia.

Insulate from the ground

• Sitting on your craft, a spray deck or a drybag will help to reduce heat loss to the ground

Create a warmer environment

• Use a group shelter with the rest of the team to create a warmer environment around the casualty and protect from windchill

Food and Drink

• Being able to offer a drink and some food could help a casualty to stay warm

Remember to ensure that all paddlers are protected from the elements and kept warm, it isn't just a casualty that can become dangerously cold

Casualty information

When contacting emergency services, it is essential to be able to convey information regarding the situation clearly, using the **ETHANE** model can help to do this

Exact location

• Use a phone, gps or personal locator beacon to give accurate information about your location. A grid reference, what 3 words, co-ordinates or shared location could be critical to being able to send help to you quickly

Type of incident

• Give clear information regarding the situation and what has happened

Hazards

• There may be elements of the environment that pose risk to you and your group as well as the emergency services

Access

• Your location information may not be accurate enough to make it clear regarding the side of the river you are on, or any challenges which may be faced accessing your location. Give as much information as possible to help to speed up the response

Number of casualties

• Ensure you are clear regarding the number of casualties and the severity of the situation Emergency services

• Which emergency services do you require? Typically, for advanced environments, this requires a specialist rescue team



Recording of information

Ensure that you are recording all the information about the situation so that you can pass this on to the emergency services when they arrive. Utilising a "timeline" style approach can help to make it clear what has happened, what actions you have taken and how much time has elapsed.

Moving a casualty

In some situations it may be possible or necessary to move a casualty a short distance; this may be due to rising water levels or to allow for easier recovery for emergency services. In most situations, it is ideal if the casualty can move themselves rather than be carried and it may be that all that is needed from the team is support and stabilisation to avoid a slip or fall onto the ground. In many situations where a casualty has sustained an injury where they are not able to walk, it is typical to stay in position, keep warm and to wait for an evacuation from emergency services.

First Aid

All paddlers heading into advanced white water environments would benefit from an outdoor specific first aid course, which will help to give you tools and confidence to manage incidents should they occur.



Other helpful resources

There are many more resources which may be helpful to you, available at the British Canoeing Awarding Body Website

Safety Resources

Leadership & Raft Guide Resources

Digital Library