White water safety and rescue

Paddling white water in any craft can be an enjoyable way to access the water and to spend time exploring some incredible places. For many, the challenge and exhilaration of safely navigating through rapids and features with other paddlers is hugely rewarding and can create powerful and memorable experiences. The white water environment does however present some risks to a paddler and their group, but these can often be minimised through careful planning and effective decision making. Whilst a group paddling on white water will be making decisions which will avoid having to perform rescues and they will be aiming to minimise risk where possible, capsizing and simple rescues do occur and can typically be managed easily by a skilled team. Developing your experience of white water safety and rescue techniques will help you to be an effective member of a group during a rescue, as well as understanding what you can do should you find yourself in the water.

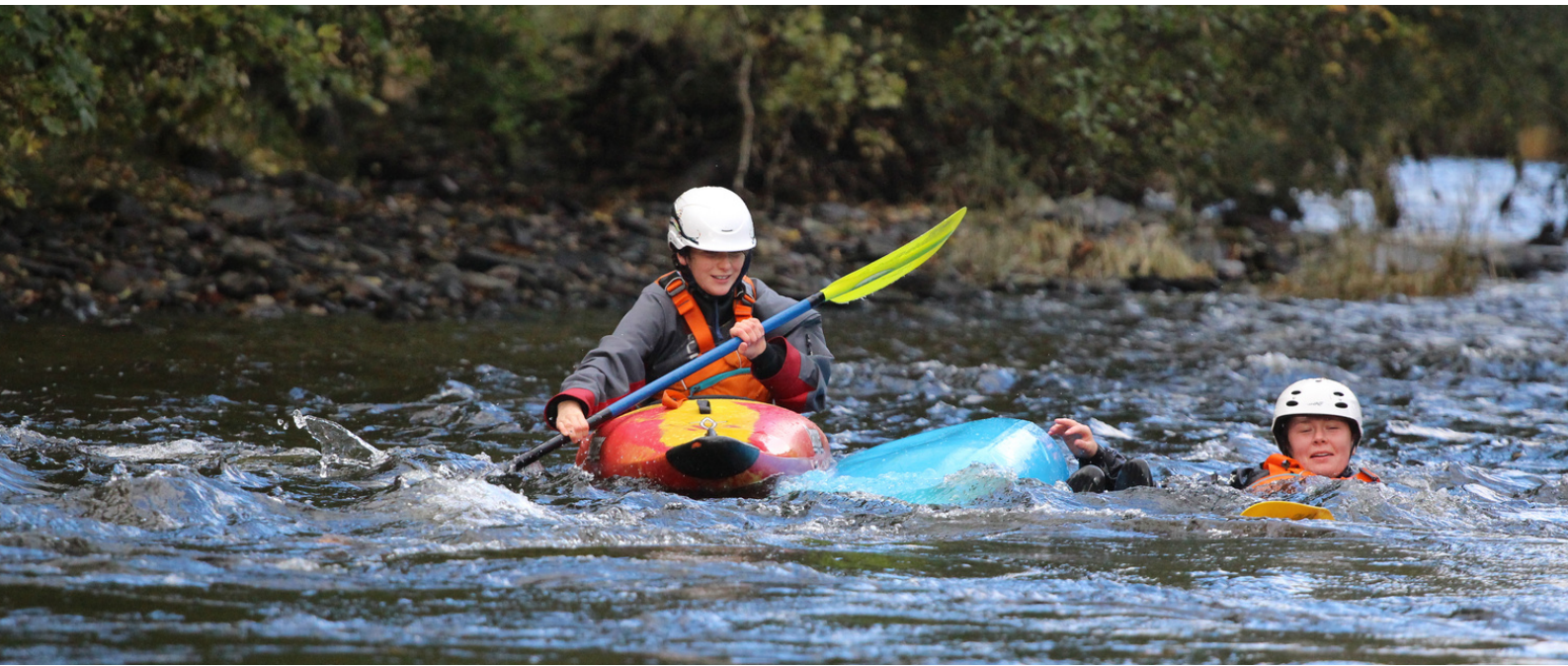
Swimming

What to do when we swim

In any situation on the river, you are always the most important person. Having the mindset that you can get yourself out of the river and actively do something about your own rescue will be very helpful for yourself and those around you.

Swimming defensively

As soon as we are in the water we need to act quickly to get ourselves to safety. Initially we want to stabilise ourselves by swimming on our back with our feet downstream in a defensive position, keeping all of our body to the surface as much as we can. We do this because, if we try to stand up in moving water, we are putting ourselves at risk of entrapment which could quickly become a serious situation. By keeping our body (feet, hips, hands) up by the surface of the water we reduce this risk and we should only attempt to stand up when we are in calm/still water by the bank. Having our feet downstream means we can use our legs if we need to fend off rocks or obstacles that we cannot avoid.



Changing direction

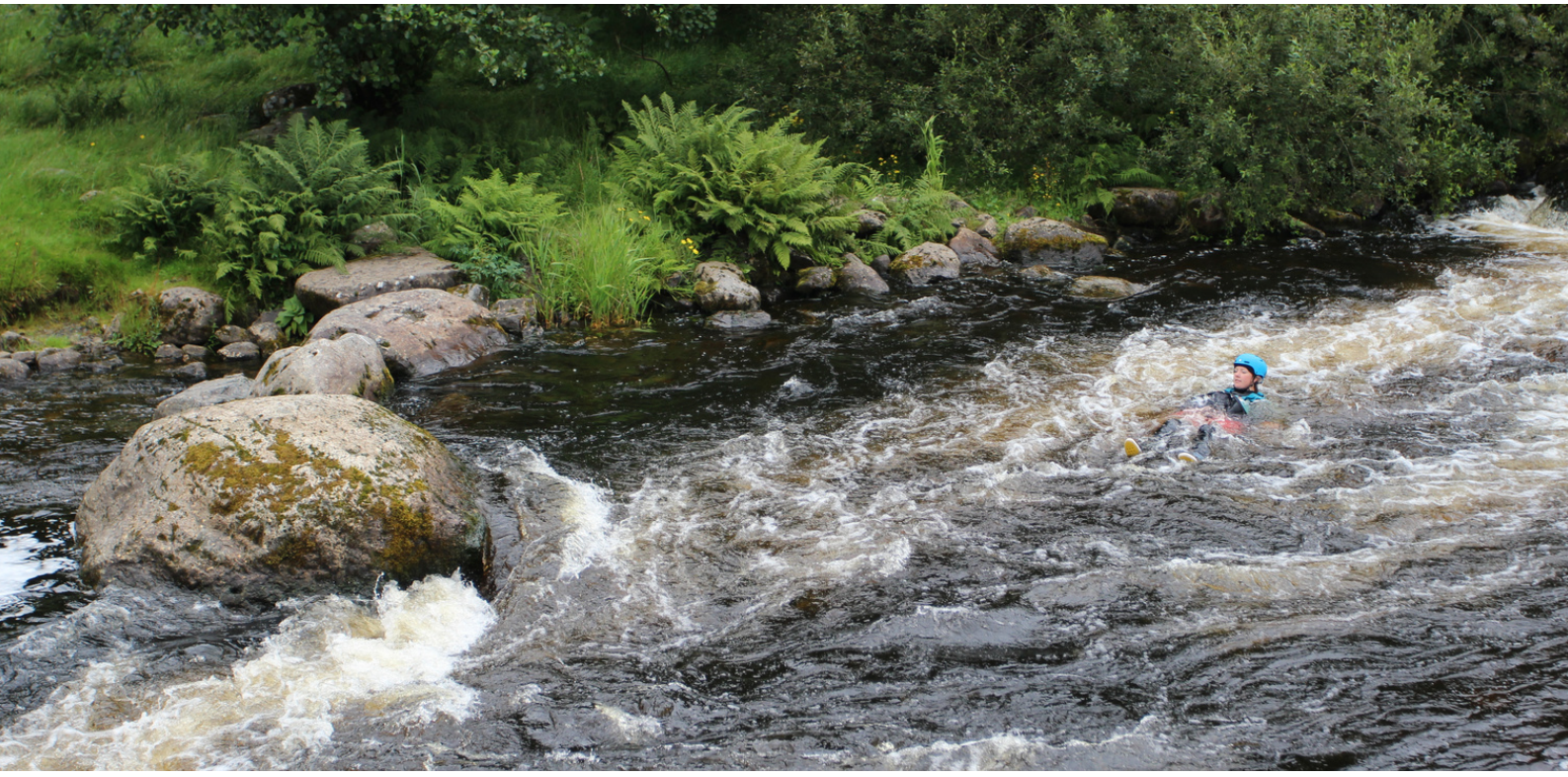
When we want to change our direction in the flow, we must avoid dropping our legs or arms low into the water. We bring our knees higher up towards our chest and use our arms to change where our body is pointing towards. Once we are pointing towards where we want to go, we can go back to the defensive swimming position or, if required, roll onto our front to swim aggressively.

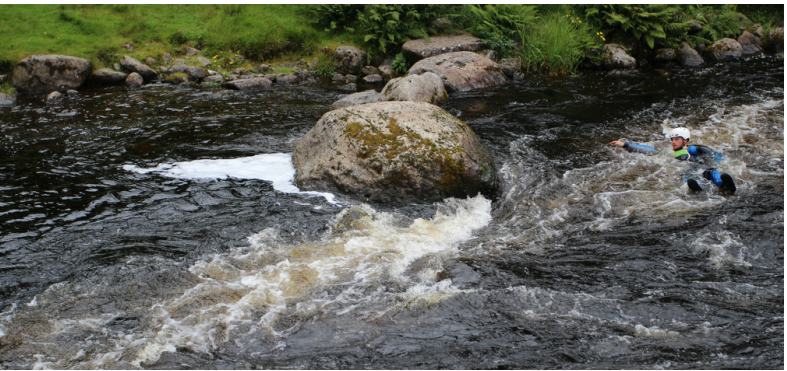
Swimming aggressively

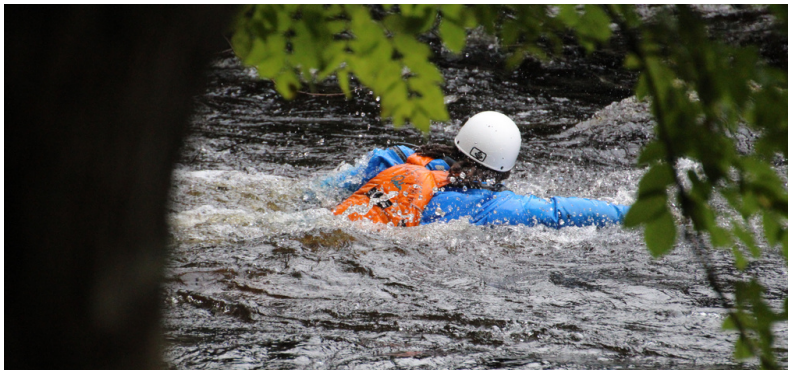
When we see the eddy (calm water) we want to swim to, we will need a burst of momentum to get us across the turbulent water that divides the flow and the eddy. To do this, we roll onto our front and adopt an aggressive swimming position. We continue to focus on keeping our body (including our hands) up near the surface of the water as we did when we were defensively swimming. Our angle is absolutely critical to our success and we should not be afraid to swim directly across the eddyline towards our goal. It is important that, in this situation, we do not actually swim headfirst downstream as we will have nothing to absorb any impact from head-on collisions with rocks.

What to do once you are on the bank

Once you have made it to the side, remember to keep moving down the bank to help recover your craft. Do be mindful of your own safety when you are travelling quickly down the riverbank as you do not want to put yourself at further risk.







Craft and equipment rescues

Rescuing a craft

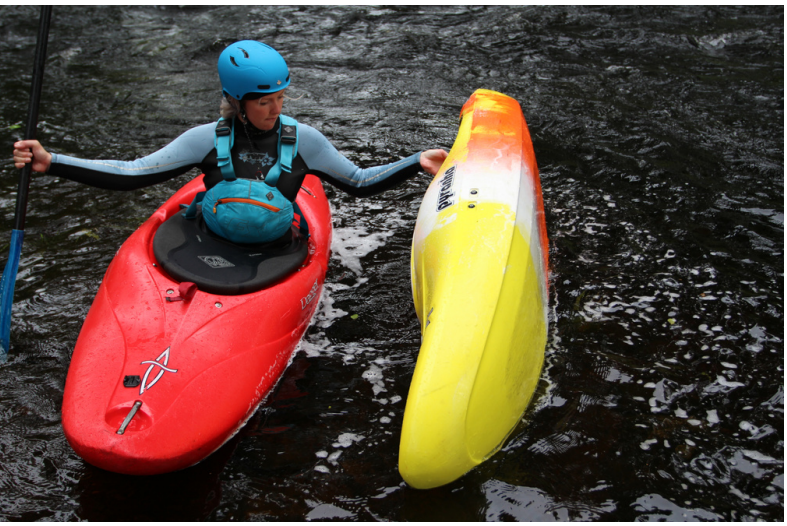
The simplest way to rescue a craft in moving water is to turn it the right way around and push it. Our kayaks/canoes/SUPs are designed to be upright and they move much better like this (even when full of water). If possible, during the process of turning a canoe or kayak over you can potentially empty some water out to make it a bit lighter before you position yourself behind it and push towards the eddy.

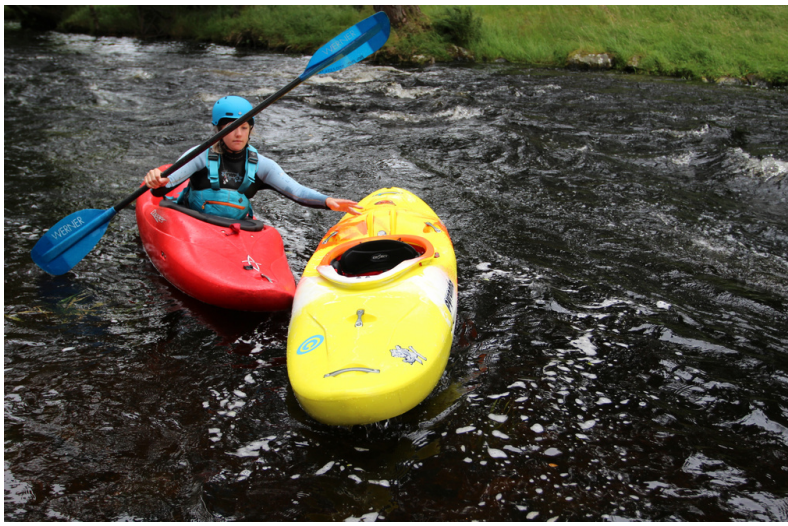
Rescuing the paddle

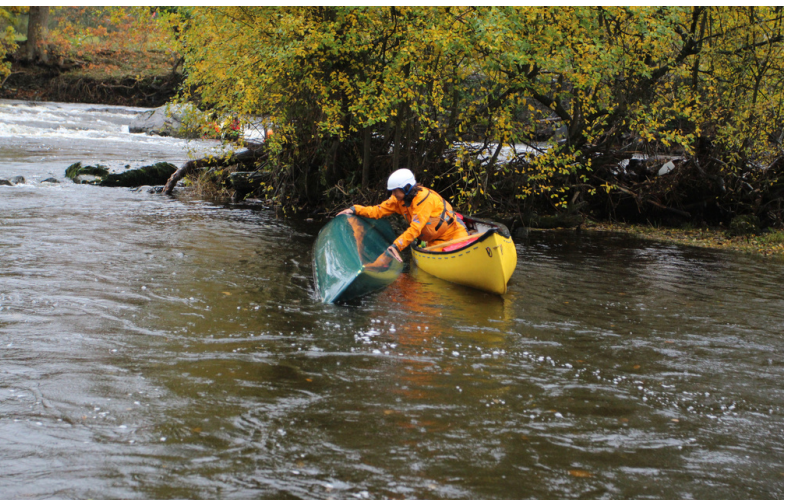
As a swimmer, you can assist with rescuing your own paddle by either swimming with it, or throwing it towards the side. Your main priority is still to get yourself out of the water so it may be best to leave it to be picked up by another rescuer. In many situations it can be preferable to have different people rescuing the paddle and the craft, which helps to avoid rescues becoming too complex.

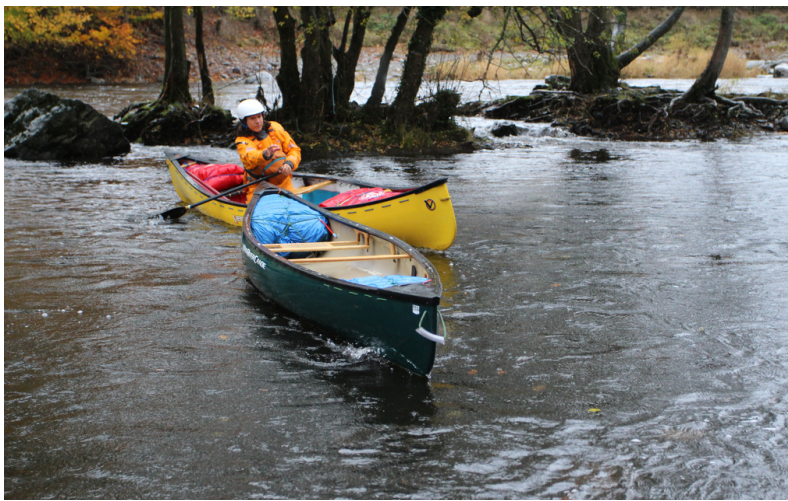
Timing

During a craft rescue, our timing is very important, we should not be afraid to wait until the right moment to rescue. This might mean that we stand off at the start and keep our distance. This helps to ensure that we do not end up in a more complex position because we have collided with the craft, got ourselves stuck on a rock or have followed the craft into a stopper. We should be spotting the eddy we want the craft to end up in as early as possible and be working towards that, being realistic about where the craft might be able to be held until it can be reunited with the swimmer and emptied.









Rescuing a swimmer from your craft

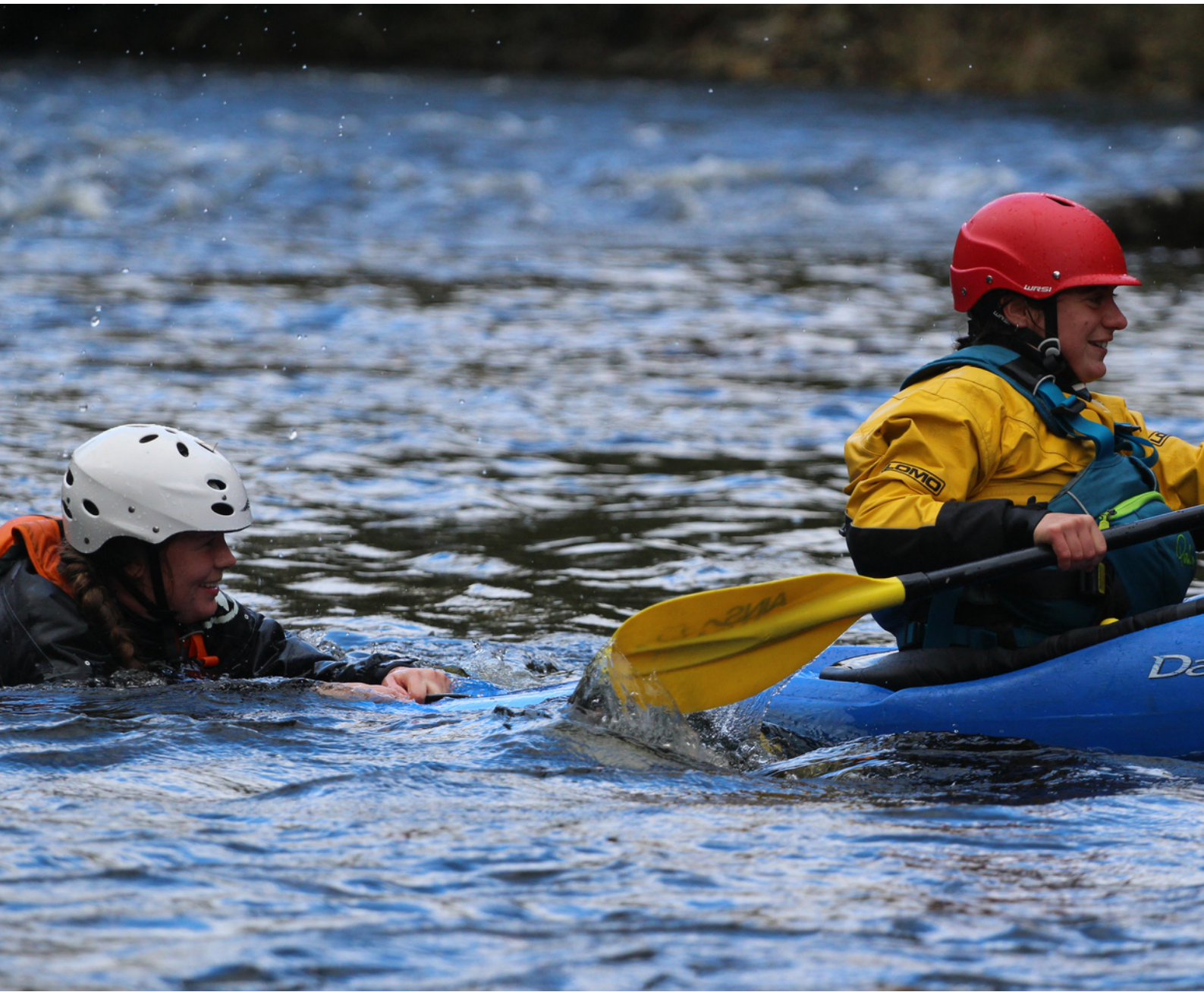
Coaching to the side

It is preferable to not make direct contact with a swimmer and to simply encourage them towards their goal. We need to grab the attention of the swimmer and then give them simple instructions such as, "Swim to me" and/or "Swim this way." Depending on the experience of the swimmer, you might need to tell them to get on their back, keep their feet up and to give them some encouragement when it comes to swimming on their front to get to the side.

Picking up swimmers

The swimmer should be aiming to self-rescue by swimming to the side, however, this is not always possible and sometimes a swimmer may need additional support from a paddler. Do consider that encouraging a swimmer to get hold of your craft in moving water puts you at risk as your craft will handle very differently and they can potentially pull you into the water. The swimmer can hold onto the rear of your boat or board, swimming on their front and kicking with their legs to help generate some momentum to get to the bank.

Once they have reached the bank, the swimmer should be making their way downstream to assist in the recovery of their canoe/kayak/SUP, taking care of their footing to avoid a slip or fall.



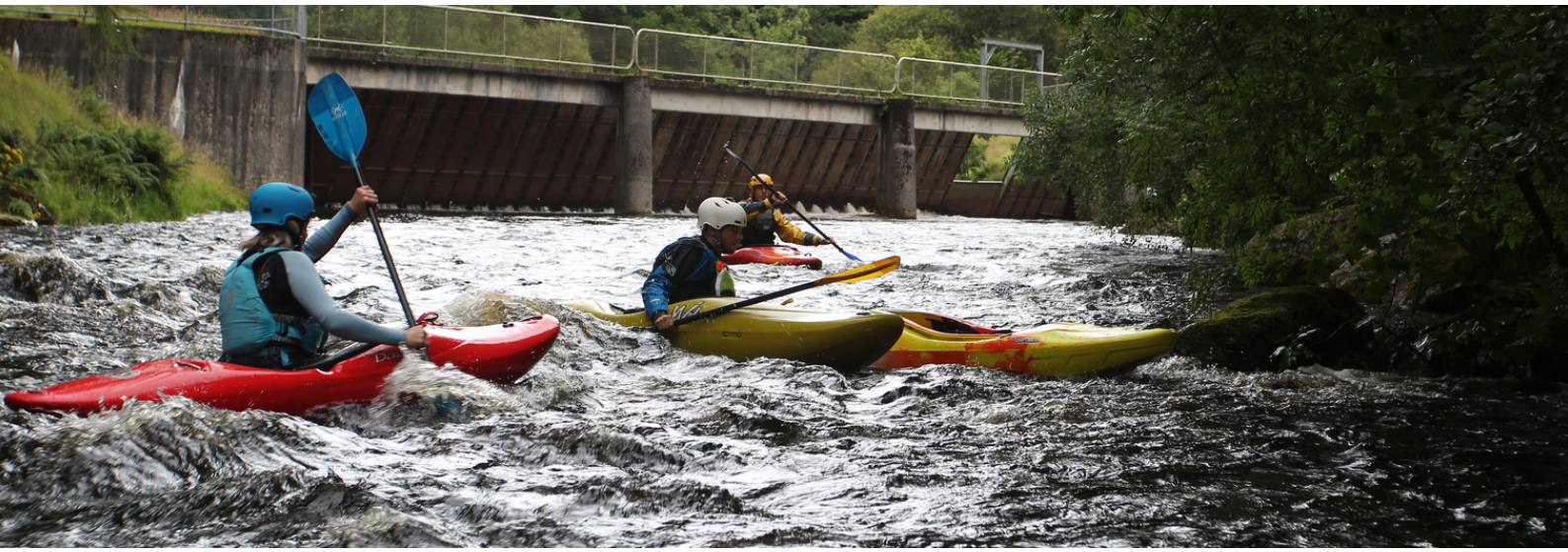
Reuniting paddlers and equipment

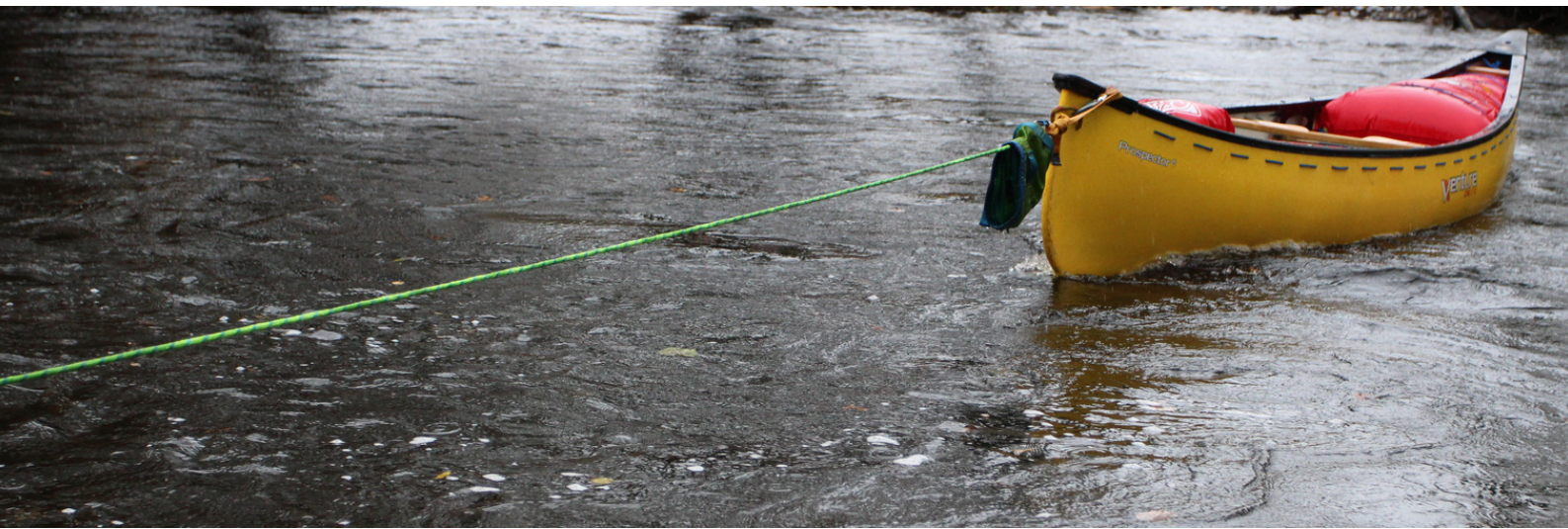
On some occasions the swimmer and the boat will have exited the water in different locations and it is required to bring them back together so that the trip can continue downstream. We should be aiming to use simple and low risk methods to do this and, where possible, bring the boat to the paddler to avoid them having to enter the water a second time.

The simplest option is for a paddler to push a boat or board across the flow to a lower eddy where there are others in the team waiting to receive it. Care should be taken to choose the right venue to do this as you would not want to risk losing the boat downstream again.

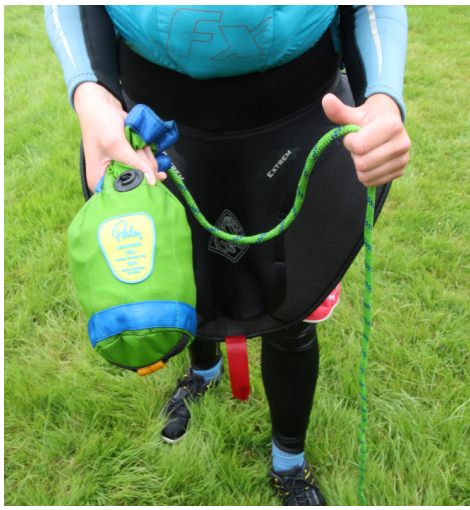
Using a throwline clipped to the craft can be an effective way to move it from bank to bank. Do ensure that canoes and kayaks have been emptied completely and that there is no chance that any paddler could be in the way of the rope. Do not forget to check upstream to ensure that paddlers are not about to paddle through. Once the rescue is set up, the boat can be pulled out into the flow and lowered into an eddy downstream or pulled back up to the rescuer, depending on the water and the location.

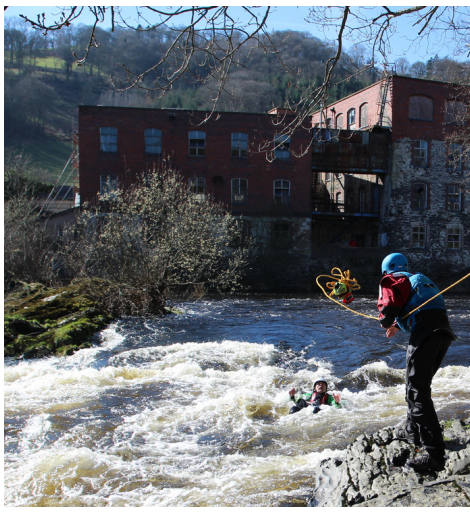
If required, a simple tow could be used, but do consider that this increases the risk. The tow should be easily releasable and formed using a simple rescue tape and not a waist belt. The right venue is essential to perform this method successfully, which should be deep, unobstructed, gentle flow with minimal hazards or features to pose risk to the paddler.

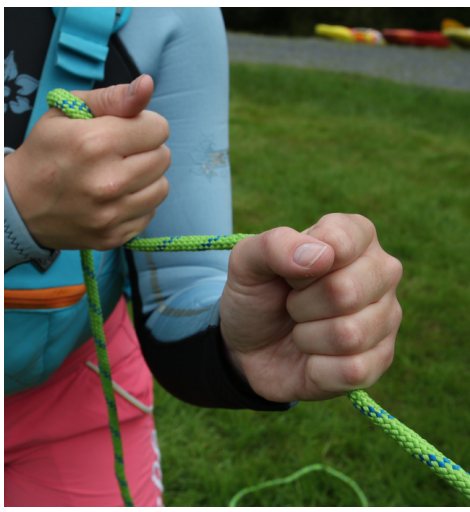


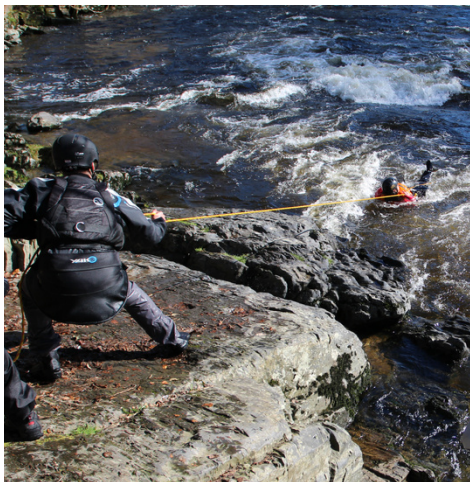


Rescuing a swimmer using a throwline









Throwing a throwline

A throwbag can be an incredibly effective rescue tool when deployed at the right time and in the right situation. However, one of the most important skills with a throwbag is understanding when not to throw it. Ropes can complicate situations and can create hazards from snagging and tangling on the bank or getting wrapped around swimmers. Just because you have a rope does not mean that you have to throw it, and it may not even be the most effective rescue.

Remember, if you are carrying a rope you need to carry a knife. It should be easily accessible, have a locking blade, be sharp and able to open with one hand. Our throwlines should also be "clean", meaning that they have no additional knots or loops tied into the rope and that the clipping point at the bag is small enough to simply connect a karabiner.

Should I throw?

When we are making the decision to throw a line, we should first think about our position as choosing the right place to throw from is critical to the effectiveness of the rescue.

• Will I be able to deploy my throwbag effectively to a swimmer from here?
• Where will the swimmer end up once they have hold of the rope?
• Do I have enough room to move with the line if I need to?
• Are there any hazards which will cause an issue when I throw the line? e.g., trees, rocks, stoppers.

Throwing the rope

- Attract the swimmer's attention.
- Open the bag, take a handful of rope and throw it behind you.
- Hold the bag tight in your throwing hand and the rope in the other.
- Hold the bag up high in the air to show you are going to throw a rope.
- Shout to the swimmer to let them know you are going to throw the rope and throw it so that it lands within reach (it does not matter if you throw it past them, they do not need to hold the bag, just the rope).

Holding the rope

- Adopt a strong stance and hold the rope tight so that the paddler swings into a lower eddy.
- As the weight of the swimmer comes onto the rope, it is helpful to move along the bank to manage the force of the swimmer.
- To help share the load on the rope, another paddler can offer support by standing behind and holding the rope with you.
- In some situations, taking a seated/static position may be better to hold the rope.

Receiving a throwline

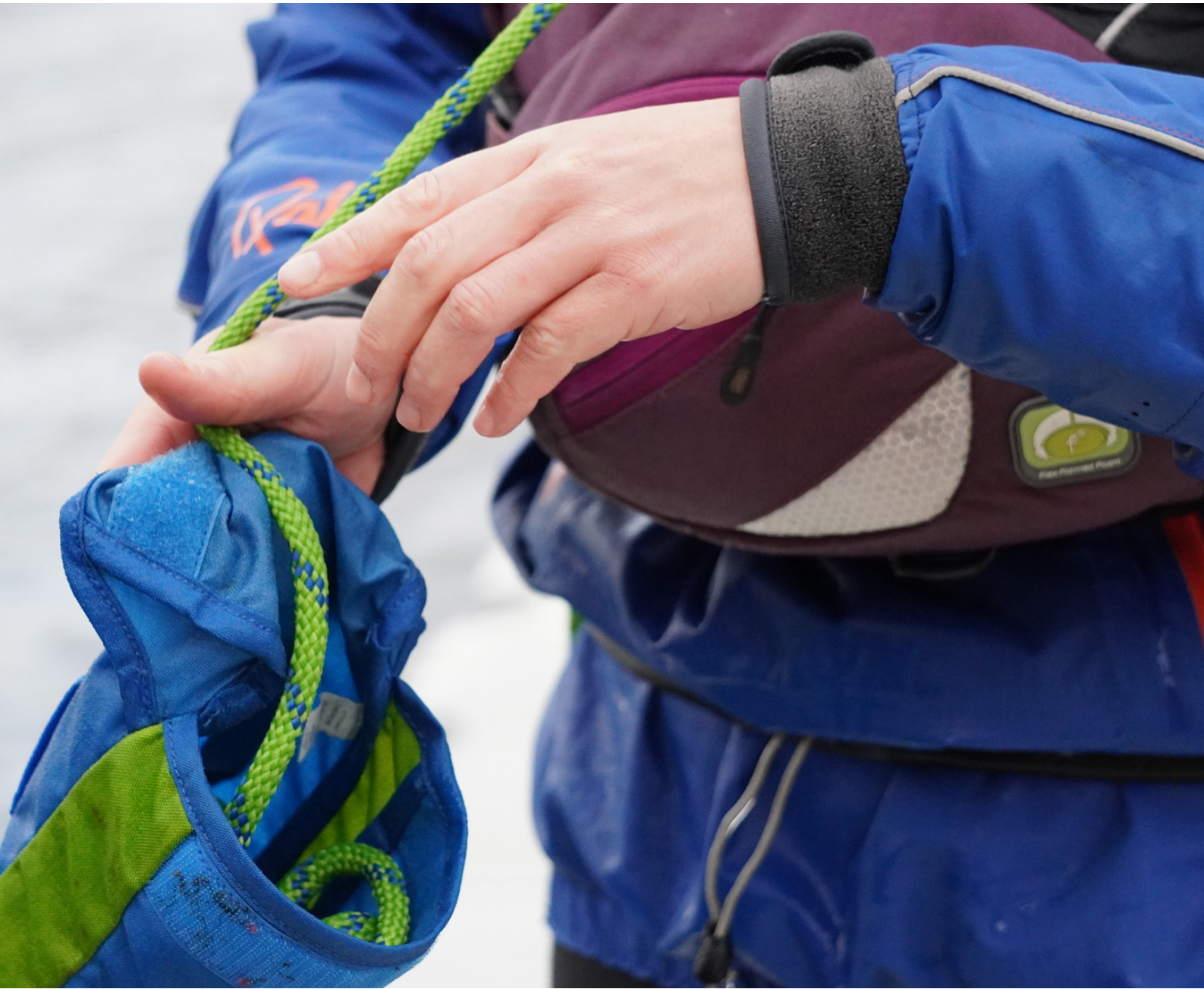
If we do receive a throwline from a bank-based rescuer, we want to simply turn on our back and hold the rope tightly across our chest. At this point, it is then the rescuer's job to lower us into an eddy where we can get out of the water. Holding the rope in this simple position helps to avoid the risk of entanglement during a rescue.

Stopper rescue

If rescuing a paddler from a stopper using a throwline, consider how much rope you need to throw. Avoid throwing the whole throwline if you do not need to, as this will introduce unnecessary rope into the water. In some situations, using a throwline with buoyancy in the bag or adding flotation to the throwline may make the rescue more effective.

Repacking

So that the bag deploys effectively next time, you must make sure it is packed well. After throwing, make sure the rope is in a clean and tangle free pile on the floor, take hold of the bag in one hand and push small handfuls of the rope into the bag with your other hand. It is essential that you do this properly as you want your rope to be tangle free next time you throw it.



Wading

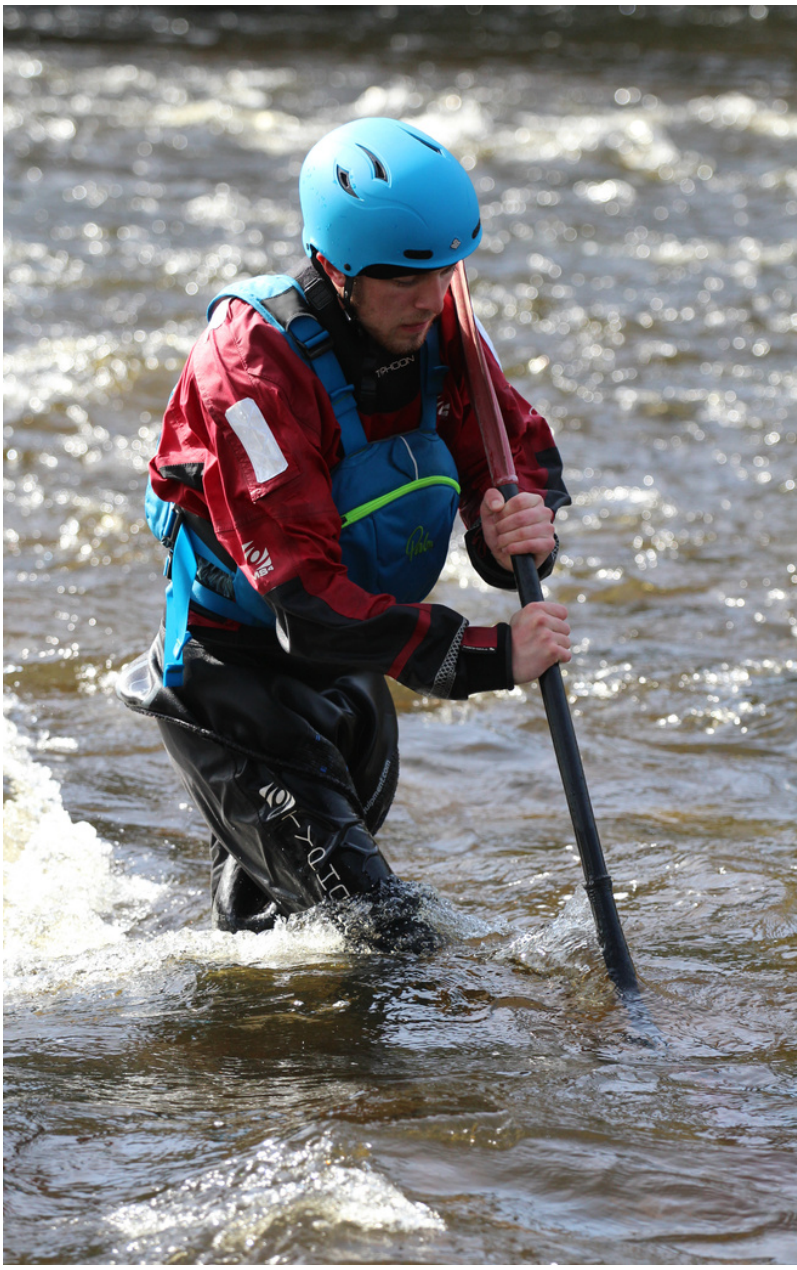
Wading can be used either directly as a rescue method or to assist with another part of a more complex rescue.

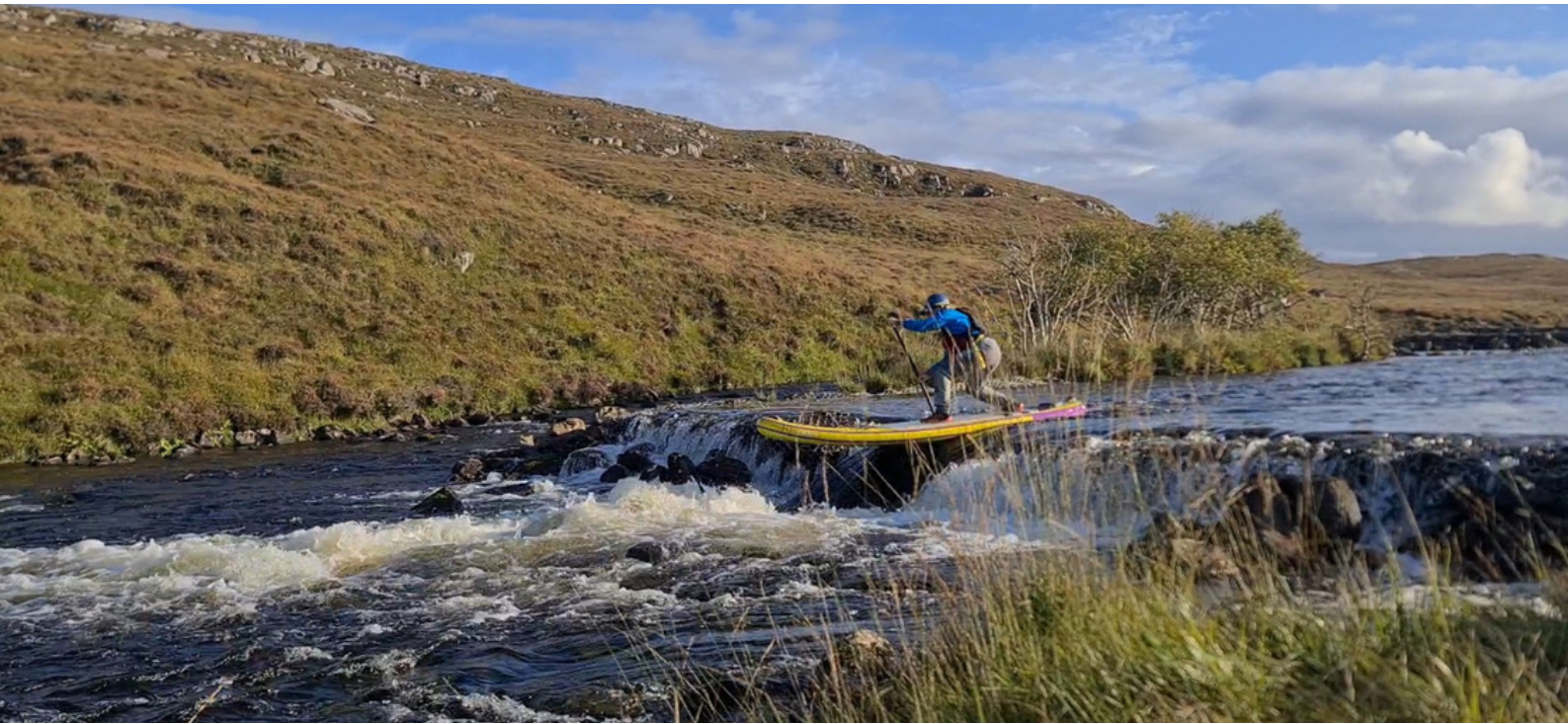
Reasons you might wade could be:

- Recovering stranded equipment.
- Getting yourself back to the bank across shallow water after a swim.
- Assisting another paddler back to the bank.
- Assisting someone who is injured.

When it comes to going into the water on foot we have two options, solo or with a team. With both options, there can be no 'safe' depth that we can wade to, as we could have slow moving, knee-deep water that feels easy, or very fast, ankle-deep water that can knock us off our feet.

Remember, that whenever we enter the water as part of our rescue, it is potentially high risk, however, with a good understanding of the environment and the techniques involved, we should be able to do this in a controlled manner.





The chest harness

A chest harness is a webbing belt and buckle release that is integrated into a buoyancy aid, giving options for bank and water-based rescue in white water. It gives the rescuer an attachment point on the rear of the buoyancy aid, which can be released using the toggle on the front of the buoyancy aid in the event of an emergency. The chest harness can be used to safeguard a paddler wading out to recover kit and equipment, as well as in more extreme situations rescuing a paddler who may not be able to get themselves to the bank.

It is critical to ensure the effective release of the chest harness, that the amount of webbing exposed through the buckle when fitted correctly follows the manufacturer's guidance. Bank and water-based practice and release must be performed before use in a real rescue.

Use in the water

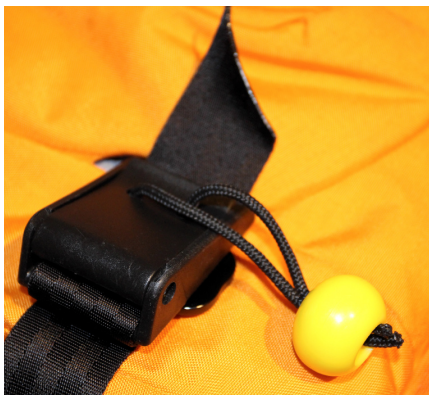
The rescuer going into the water should already have their harness fitted correctly and be clipped into the attachment point on the rear of the buoyancy aid with a locking karabiner at the bag end of the throwbag. The rescuer is looking for a position where they can leave the bank at water height, where they will swim or wade the shortest distance to get to their target.

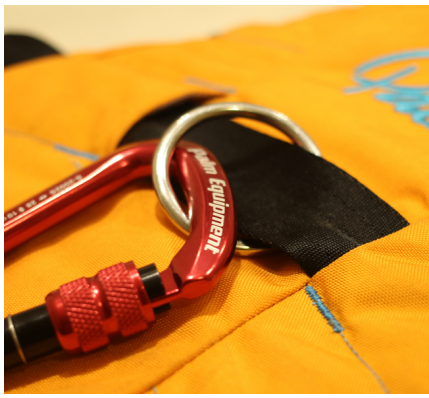
If being used to safeguard a paddler wading, then the bank-based team aim to keep the rope out of the water and they are only there to hold the paddler should they slip or fall in the water. If being used to recover a paddler in the water, the bank-based team will be managing the rope so that the swimmer can reach their target, before holding tightly to allow the paddler to pendulum into a lower eddy using the flow of the water.

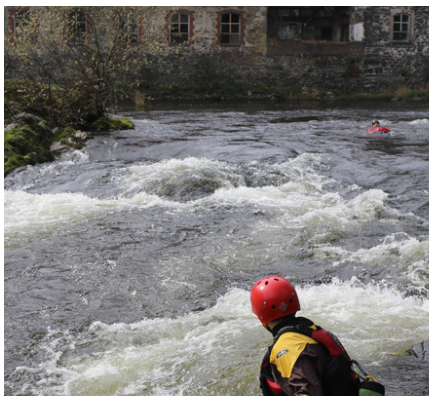
The bank-based team should ensure at all times that the rope is well managed and is tangle free in a neat pile on the banking. This should be positioned away from potential snagging points such as tree roots and cracks in the rock. The bank team must consider the amount of force that may be applied during the rescue, they should look to manage the load dynamically and should consider having more than one person holding the line to manage the potential force which will be applied.

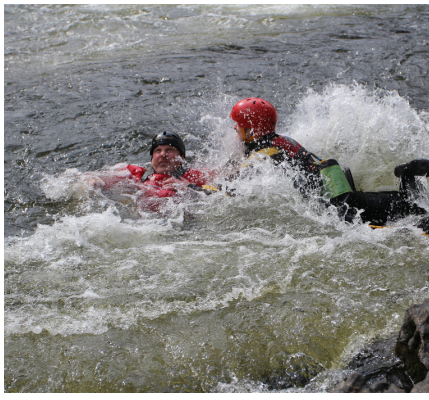
Recovering a swimmer

When the rescuer makes contact with the swimmer, they turn them over onto their back, grab their shoulder straps of their PFD and hold them in towards your chest in front of them. At this point, it is now up to the bank-based team to use the flow of the water and the angle of their rope to bring them back to the shore.









Extracting Methods

Sometimes, following a swim our craft can become pinned in the river, however, adding airbags to a canoe or kayak will help to avoid a boat becoming stuck in the flow and will mean that the need to unpin a boat is reduced massively.

Self-team-casualty-kit
Our crafts are not as important as we are, this means that we should not put ourselves in any unnecessary danger to rescue them and we should not prioritise them over our own safety. In some situations, a stuck craft could range from simply being a mild inconvenience to being your only way to get to safety. Therefore, having some straightforward techniques which can help you recover your craft can be very helpful.

Stop and think
If you are safe, your team is safe and the swimmer is safe, your first thoughts should be to stop and think. Often, stuck craft can become free, even when they initially appear to be completely pinned. Give the craft a little bit of time and use the time to come up with a robust plan, often crafts will only need just a bit of physical effort to get them free.

Clipping
Our hardest job is probably attaching a line to the craft, this is also the part where paddlers tend to put themselves at an unnecessary level of risk by rushing in too soon.

When attaching a line, we need to consider our options:

- Is the craft pinned on a rock that we can stand on to access it?
- Can we paddle out to the craft and get closer to it?
- Is it realistically safe for someone to wade to the craft?

Once we have the canoe/kayak/SUP clipped, we should try to simply pull with the whole team to start with. Often changing the direction that you are pulling in will apply a different force to the boat/board.

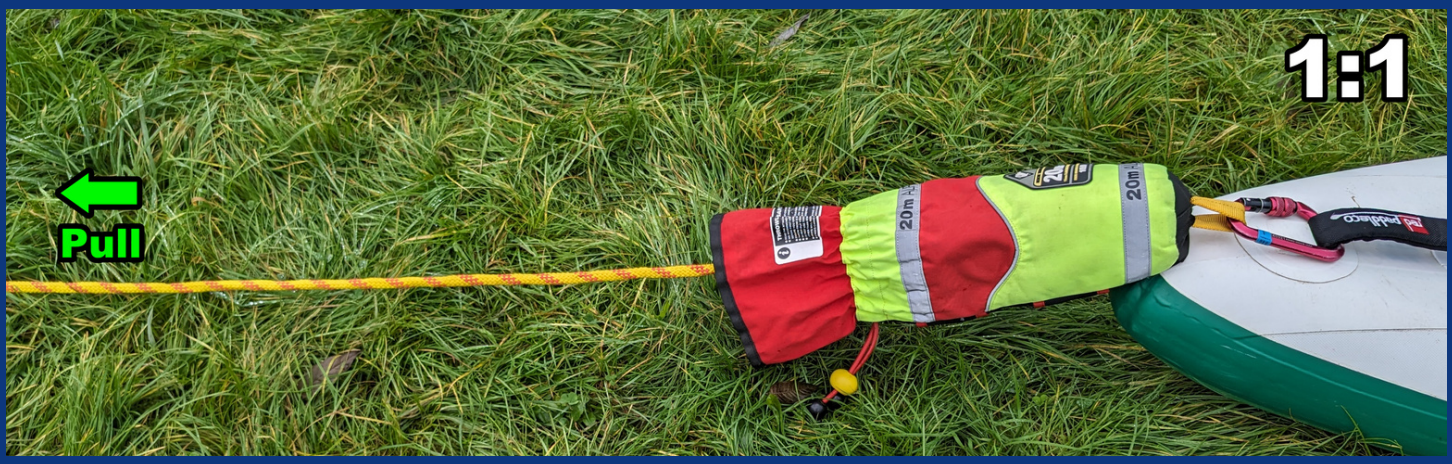
If these simple methods have not worked, it is possible to create force using a range of rope-based systems. However, it is important to remember that often pulling in the right direction with more people is better than using a more complex method.

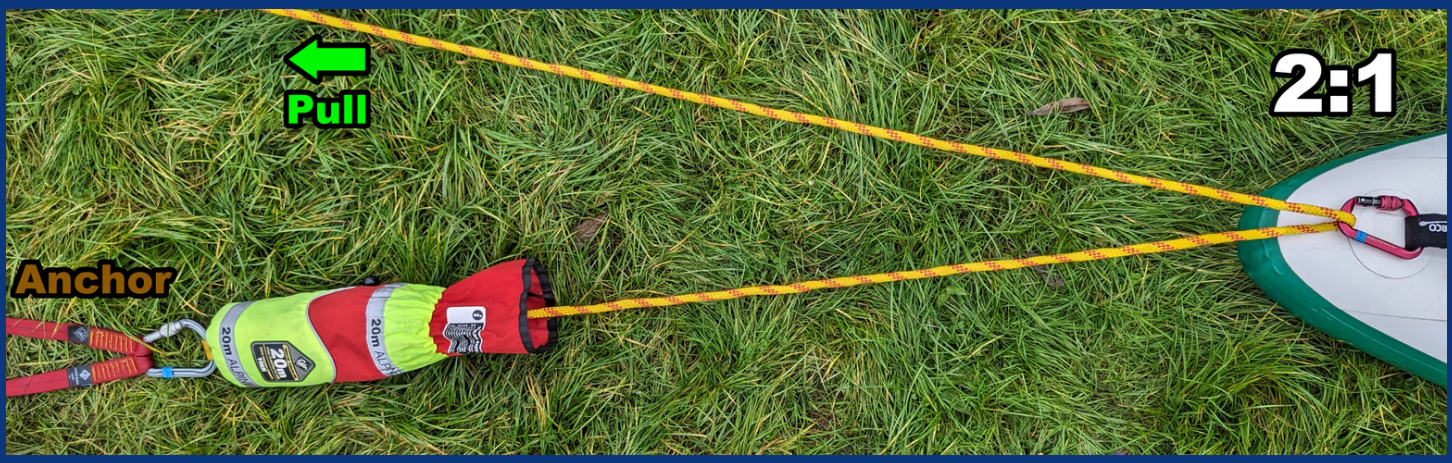
Anchor Selection
Choosing the right anchor to attach the system to is very important, look for a large boulder or tree which has no chance of moving when the force of the boat system is applied to it. Most modern rescue tapes have the ability to create anchors very easily by clipping both ends of the tape with a locking karabiner.

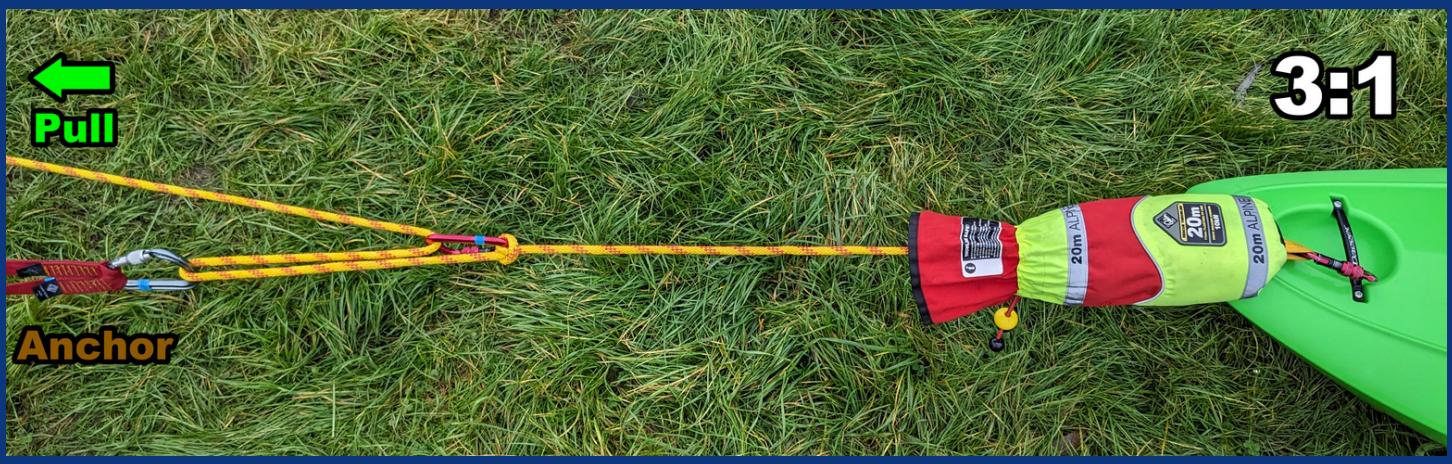
CAUTION
It actually may not be possible to access the pinned craft safely, we might need to wait for it to free itself or for the water level to drop. Recovering the craft might require higher level skills, equipment and knowledge than we possess in our team. Be prepared to step back from this situation if the risk is too high to yourself and your team.

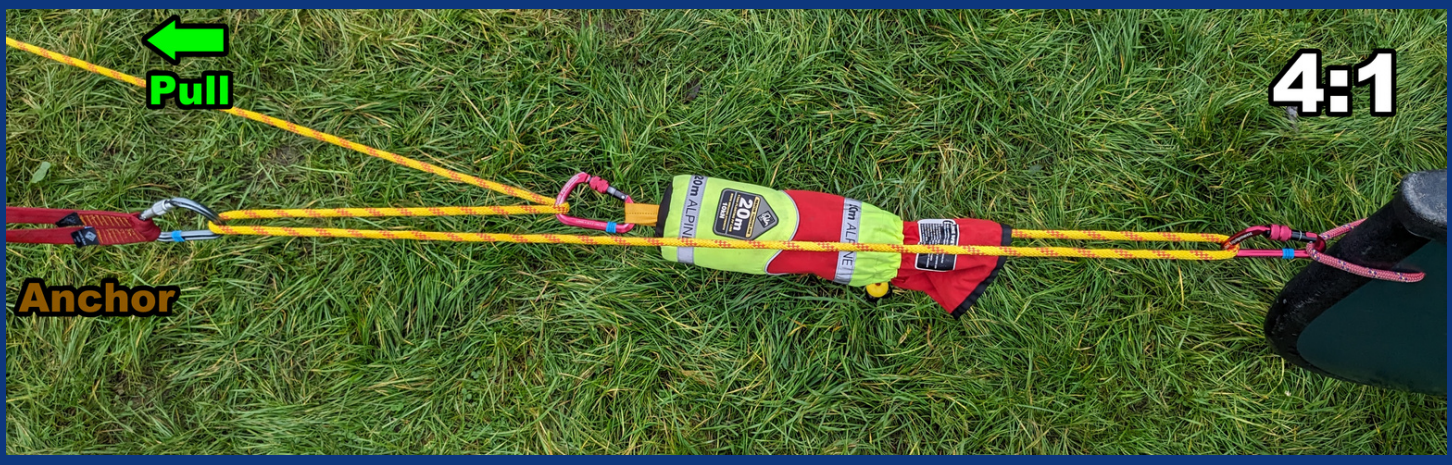
Mechanical advantage systems

You can use these diagrams to help you to set up and practise a range of mechanical advantage systems.









What if there is an emergency on the river?

If there is a serious emergency on the water, being able to manage it and call for help is critical:

- Consider where you decide to land on the bank, it may be easier to gain help from one side of the river or the other
- Locate yourself on either a map or through using your phone/gps
- Use your mobile phone to call for help (you could also blow your whistle to attract attention). Call emergency services, giving clear information about your situation
- Give clear information to the emergency services about which side of the river you are on, this could be critical to the speed of your rescue
- Make it clear if access to your location is steep, rocky or will involve going into or near the water. Is there anything you can do to help guide emergency services to your position?
- You may be able to send group members to a point where they could meet emergency services to bring them to your location
- Be mindful of keeping the casualty warm, as well as yourself and others. What do you have that could help with this? A group shelter could be helpful in this situation
- Consider the possibility of rising water levels. Where possible, position yourself in a location where this will not become an issue