Safety on the Water – Beaver Scout & Cub Scout Rafting

All Scouts participating in regular water activities must complete a Swim / Water Confidence Test.

Contents
This guide contains lots of what you need to know to take on a rafting adventure, including:

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Equipment
Due to the range of equipment involved and its importance to raft design and construction, it may be useful for a group of scouts to take on the quartermaster role for the project.

Buoyancy
The most important thing about your raft is that you need something to keep it afloat . Anything that floats will work. Inflated tractor or car tubes, (your local tyre centre or garage may usually

give you these free of charge), steel oil drums with lids, plastic barrels, plastic bottles or polystyrene blocks could work. It is even possible to make buoyancy from inflated and tied black plastic sacks if you are careful.

Plastic barrels tend to be the most common but you should be sure to check the buoyancy of each one before getting afloat! As a rule of thumb, a 200 litre drum will float ±100kg at 50% depth, but you will need to experiment.

Structure
Timber poles or plastic pipes are normally the most commonly used items in Scout rafts. Plastic or PVC pipes have the advantage that they can be also used as the buoyancy element meaning that you can use a lightweight platform to support your rafters, think timber sheeting or suitable plastics.

The lighter your structure, the faster you will go, just remember that it needs to be durable enough to hold your rafters!

Paddles, Oars etc
All aspects of your raft can be made by your rafters. Be cautious about protruding sharp edges or any stray screws or nails. It might be worthwhile to bring in an expert craftsperson to assist. There are lots of plans online. It's probably best not to use double-ended paddles in a confined space as the rafters may end up tangled. Remember that a good rhythm and a consistent stroke will give your raft much more speed!

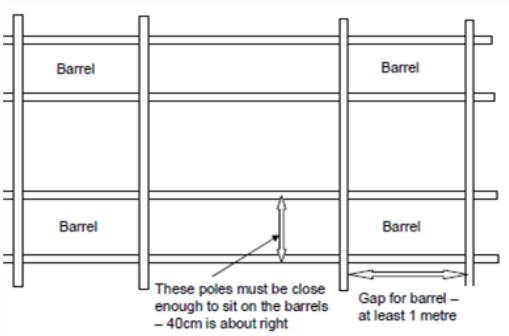
Rope
Natural fibre ropes like manila will tighten when wet, resulting in tighter lashings on your raft but this can be difficult (and expensive) rope to source. Its proper care and storage is also important. Manmade rope like polypropylene is light and it floats but it may loosen with the weight of your crew. Experiment in order to find the right one for your team.

Designs
Given the range of possibilities in terms of design, perhaps different patrols may wish to build different rafts. This would make a good patrol activity in preparation for the activity.

Coracle
A large lorry or tractor tube and some builders plastic sheeting craftily assembled can make a traditional coracle for one person, or even possibly two. As you can probably get the tube for free and builders' plastic sheeting is quite cheap, you can get afloat for next to nothing. Remember to put some supports in the bottom, like old carpet to spread the weight on the floor.

Square Frame

A securely lashed square frame can have four large inner tubes lashed to it and a raft for two or four people can be quickly assembled. If you are using barrels ensure they are free of any chemical or oily residues, which would cause pollution or harm you or the environment. Each litre of buoyancy should support 1kg. Don't forget the weight of the spars and the barrels or tubes, remember the more buoyancy, the higher (and drier) you will float. Decide how many people are to be kept afloat. Sometimes it's better to build two smaller rafts rather than one huge one. Remember
you are going to have to carry it on and off the water.



Propulsion

1. Paddling: Paddling is the simplest and most common way to propel your raft forward. Coordinated and strong paddling will move your raft quickly and smoothly. Research different strokes and see what works best for you. Double ended paddles may not be the best idea if you have a larger crew as they might be quite awkward.
2. Rowing: Rowing is an interesting step-up for those who may have already rafted using paddles. You will need to fit spurs to operate the oars and possibly use some sort of rudder system for steering. Such a raft will most likely need to sit quite low in the water in order to operate effectively. Your group may need to practice this one a bit on land first to ensure that it will work!
3. Punting: The punter generally propels the punt by pushing against the river bed with a pole. A traditional punt has no tiller nor any provision for oars, sails, or motor; instead it is propelled and directed with a pole. The basic technique of punting is to shove the boat along with a pole by pushing directly on the bed of the river or lake. It's pretty much a one person activity but it might suit your troop. Racing individual rafts by punting sounds like great fun to us…

   How to punt!: Facing the front of the raft, put the pole in the water. Lean it forward and push off. Work your way up the pole hand over hand until the pole trails behind you. The pole has now become a rudder. Keep holding the end of the pole, leaving as much of it floating as possible. To turn right, sweep the end through the water to the right. When you point in the desired direction, raise the pole up, drop to the bottom and repeat.
4. Fixed Lines: A fixed rope line running across the water a river or narrow lake is a great option, especially for younger Scouts. The idea is that a line is tied from bank to bank and those on the rafts must pull themselves across to the other side as quickly as possible.

Safety

This section is paramount please read carefully and make sure all Scouters and Scouts fully understand.

1. Appropriate Supervision: The person in charge should be of sufficient proven skill to oversee the activity. Adequate rescue cover should be in place. While rafting normally takes place in shallow water, there should still be sufficient provision for rescue. Appropriately skilled kayakers or a small powerboat / rowing craft should be sufficient in most cases
2. Swimming Ability: The person in charge should know the swimming ability of all participants and have sufficient safety arrangements in place to account for weaker swimmers. Scouts not able to swim should not be excluded from water-activities however the Scouter-in-Charge must be aware of such individuals and take the necessary precautions (safe-enclosed waters, PFD, has floated in deep water wearing a PFD prior to the activity) and ensure the scout is comfortable in the water.
3. Personal Flotation Equipment: Refer to rafting guidelines.
4. Buddy System: You should have a simple plan for what will happen in the event of a Scout falling from the raft or in the event of capsize or sinking. A key part of this should be a buddy system where Scouts are paired off and should keep an eye on one another throughout the activity.
5. Skill Proficiency: Scouter in charge should know the limits of their cub / beaver ability ensuring that they have enough skills to carry out or be supported to carry out the activity safely and enjoyably.
6. Planning: Choice of location is covered in the next section. Tides & currents should be considered. Your rafting adventure should not interfere with other water users. You should ensure that your activity will ***Leave no Trace*** on, in or near the water.
7. Equipment: It is advisable that rafters wear a helmet. They are lots of hazards, not least using paddles in a tight space and hard surfaces on the raft itself. Rafters should wear hard-soled shoes throughout, particularly if the water is shallow and the nature of the bottom is not known.
8. Discipline: Crews should have an idea as to how best to distribute weight on their rafts. They should also have discipline in a capsize (knowing that they should stay with the raft and use the buddy system) and have an emergency plan
9. Weather: A drop of rain won't harm well prepared (and appropriately dressed) Scouts but a gusting and unpredictable wind could have a huge effect on everyone's enjoyment. Have a weather forecast and make decisions based on it.
10. Clothing
    - Runners or wetsuit booties

- Shorts & T – shirt.
- Thermal underwear can be worn under these depending on the water temperature.
- Light gagoul
- Complete change of clothes & towel (warm fleece)

Choosing a location

Choosing a location is crucial given that rafting can mean quite a lot of bulky equipment. Here are some to tips for choosing your location:

- You must have **familiarity with the location**! You should have some understanding of the water body you are using and what the inherent dangers are;
- **Flat water or moving water**? You need to take into account that moving water (like a river) will require more rescue cover and significantly more experienced supervisors ;
- What is the **depth** of the water? Does it change? Can rafters stand in the water? Are there any significant currents?
- Are there any **hazards in the water**, like rocks, reeds or manmade structures?
- Is there appropriate **access** to, and egress from the water? There's no point building rafts that cannot be gotten on to the water easily!
- Will your activity hamper **other water users**, either recreational (kayakers, sailors etc) or professional (fishermen, Coast Guard etc)?
- Are you likely to disturb any form of **marine life**?
- How is parking? With bulky equipment, you will need a lot of loading and unloading space…

Leaving no Trace

Leave No Trace is an ethical approach to living. It is about taking *personal responsibility* and has 7 principles:

1. Plan ahead and prepare
2. Be Considerate of Other Users
3. Respect Wildlife
4. Travel (and Camp) in appropriate areas
5. Leave What You Find
6. Minimise the Effects of Fire
7. Dispose of Waste Properly

Checklist

- ✓ Safe waters chosen
- ✓ Proper safety precautions in place
    - Radios in use and checked
    - Rescue infrastructure

- Emergency plan known to all
- Qualified first aider onsite

- ✓ All equipment suitable and safe
- ✓ Rafts checked before they enter the water
- ✓ All participants have a working lifejacket or buoyancy aid and a helmet
- ✓ Weather forecast has been obtained and shows no unacceptable risks
- ✓ Non-swimmers have been identified
- ✓ All rafts have along rope attached, which can be thrown to a rescuer or to a person overboard

Remember! Don't be afraid to postpone or to change the plans if there is a good reason to do so!

The Scouting Ireland Safety on the Water docs– your safety bible!!