



Water Safety Training Strategy

Draft Syllabus for Bank Team Training

Version 2

Water Safety and Rescue Group
Jan 2009

Foreword

This syllabus has been drafted in a form that identifies the key skills and knowledge expected of every member of a bank team that is assembled by a mountain rescue team for the purpose of working at a water margin. Rather than simply stating the expected outcomes of the training this document goes further in offering guidance to those offering or assisting in training, so that a nationally consistent approach to bank team training can be achieved.

This national syllabus has been devised by water safety and rescue specialists who are all active within mountain rescue teams. The unique perspective of these specialists has resulted in a set of training outcomes that meet the needs of team members that have to work adjacent to still or moving water as part of their MR duties. It is not intended to represent a sufficient state of knowledge or offer sufficient expertise to undertake search and rescue activities in water: for this candidates will be expected to train to the water team syllabus.

By tailoring a water safety course for the needs of MR teams it is hoped that there will be a large uptake attending the training. Hopefully, we will move quickly to a position where all MR personnel who come into contact with the water margin will have been trained to the standard advocated in this syllabus. The principal objective of MR(EW) in developing this training course is to make mountain rescue safer for its members and those they come into contact with.

Please e-mail comments on this report to water@mountain.rescue.org.uk



Acknowledgments

Whilst this document has been drafted by the Water Officer, it is the collective work of the water safety and rescue group. The group comprises technical experts from all MR(EW) regions and their efforts in developing this syllabus is gratefully acknowledged.

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Equipment

E1 Understand that Hill equipment hinders swimming and self-rescue

Discuss the problems of swimming in flowing water whilst wearing hill kit. Discussion about drag and flotation from saturated hill kit. Group discussion about what to look for in clothing and equipment for accidental immersion (and also intended immersion to reveal why water teams need wet suits, dry suits and other specialised equipment.

E2 Have a knowledge of PFD design and limitations

Discussion about buoyancy aid fundamentals. Available models range from 50N to 120N flotation, offering between 5kg and 12kg water displacement. The chosen aid must be appropriate for its use and should be sized to the individual. Different uses also might require different design which the instructor will discuss. Most teams currently use 80N models. Buoyancy is quoted for still water not white water, where flotation will be less because of aeration. Straps and loops to be avoided and knives may be stored in Velcro pocket – must be clean profile to minimise snagging hazard. Crutch straps are difficult to search long distances with but are effective when in the water. Team selection may be based on water team considerations to purchase a particular type. Inflatable lifejackets are not appropriate for flowing water due to chance of puncture, obstruction of downstream view and difficulty in rolling over and self-rescuing. PFDs should have a whistle and knife. The instructor should review types of knives and attachments.

E3 Be aware of the limitations and benefits of different types of helmet

Instruction on the protection offered by climbing helmets and water helmets. Candidates should understand that water helmets offer good protection in water, good protection on land (from tree branches etc) and poor protection from falling debris. Candidates should understand that climbing helmets offer limited protection in water, good protection on land (from tree branches etc) and good protection from falling debris. Bare heads provide no protection.

E4 Understand the pros and cons of different throwlines

Basic characteristics of throwlines will be covered, including buoyancy, strength, length and bags. Several different makes should be available for comparison, as well as different lengths. Clean rope principles should be introduced from the outset.

E5 Be aware of the advantages and limitations of reach/wading poles

Collapsible or folding wading poles, rigid and telescopic poles should be discussed and their use for wading, depth gauging, probing, undergrowth searching, hand-lining and reach rescues will be described.

Throwlines

T1 Candidates should be able to demonstrate the effective deployment of a throwline.

The instructor will demonstrate the underarm, overarm and side throws of a packed throwline, discussing overhead obstacles (including powerlines), snagging risks and vocal commands upon deployment. The group will practice this skill in a dry area until proficient, repacking bags between throws. When proficient, the instructor will demonstrate a re-throw and the candidates will practice this until proficient, using group members walking by as targets. The storage of throwlines will be discussed. Upon completion of the throwing exercise the instructor will demonstrate the shoulder belay, the hip belay and the sitting belay and discuss how the stance selection will be determined by the expected force. The group will practice until proficient. The use of a knife in emergency situations will be discussed.

T2 Candidates should be able to apply appropriate knowledge to select a throwline rescue location

The instructor will show a range of inappropriate locations where successful throwline rescue is unlikely and will then show locations where the throwline can be deployed and the swimmer landed successfully. After discussion, the group will walk a stretch with the instructor voting yes or no to a series of locations selected by the instructor.

T3 Candidates should be able to carry out a successful throwline rescue

Using a selected easy location, the group will take turns in rescuing and swimming so that the skills learned dry can be put into practice. At this stage the remeasuring of a recovered throwline will be demonstrated by the instructor. A range of throw lengths should be carried out along with each of the belay stances. The exercise will finish with a throwline rescue from a new location during which appropriate voice commands should be used by the candidates.

T4 Candidates should be aware of other throwline techniques

The instructor will demonstrate how a throwline can be used to assist a swimmer in a recirculation by pulling downstream. The instructor will demonstrate a support line when there is access from both banks.

T5 Candidates should be aware of throwline technique maintenance

The instructor will impress upon the candidates that throwline skills have to be continuously maintained. As a key skill in water safety, throwline practice (dry and wet) must be carried out as part of repetitive team training.

Immersion Skills/Swimming

- I1 Candidates should be able to take immediate appropriate action after an accidental immersion in daylight.**

The instructor will demonstrate the defensive position on calm water and watch as all candidates do likewise, then progressing to slowly moving water. Body positioning relative to the water will be covered to develop an understanding of ferry glide angles. Back paddling to maintain a feet first alignment and to change direction by ferry gliding will be covered. Candidates will be able to steer toward eddies.

- I2 Candidates will be able to swim aggressively into eddies and roll over an eddy line**

The instructor will demonstrate rolling over an eddy line and all candidates will practice this. The instructor will then demonstrate turning from a defensive swimming position to an aggressive swimming position and swimming into an eddy. Candidates will then practice this skill until competent in the practice eddy.

- I3 Candidates will swim downstream for an appropriate distance in grade 2 water, breaking out to eddies of their choice**

The instructor will lead a swim having first walked the bank with the candidates breaking into several eddies on-route. The candidates will then carry out an un-guided swim.

- I4 Candidates will receive and hold a throwline whilst swimming in the defensive position**

The instructor will demonstrate the position to receive a throwline and secure it. Candidates will then practice receiving until confident.

- I5 Candidates will be familiar with audible (shout and whistle) and visual (hand) signals**

The instructor will demonstrate the full range of signals used around water. Candidates will use such signals throughout the training to embed their use. Communications between opposite bank teams will be considered.

Water Margin Search Techniques

S1 Candidates will understand still water margin search party configuration

The instructor will develop from first principles the search party configuration for still water, where the searcher, safety backup and radio operator move line abreast. The positioning of the three roles will be discussed in the group and a short section of water margin "searched". The use of handrails and the assistance of the radio operator in achieving access will be introduced.

S2 Candidates will understand moving water margin search party configuration

Having carried out the still margin search, the complicating factors of moving water will be discussed. The need for the safety backup to be positioned downstream of the searcher will be discussed – the backup must maintain a position where throwline is not obstructed. The backup must be sufficiently far downstream for the searcher to have broken the surface and re-orientated after an accidental immersion. The principle of faster water greater distance will be made. The radio operator will be positioned in-bank of the searcher and it will be stressed that this must be at a safe distance. "Safe" is to be defined as a position whereupon accidental stumble the individual will not fall into water.

S3 Candidates will understand moving water search strategies

The upstream continuous search pattern with opposing search parties working together will be cited as the quickest search technique (1km/hr). The conditions under which the system can be used will be discussed and it will become apparent that this will account for a small proportion of searches. The staged upstream search will then be described (0.5 km/hr maximum) along with the complexities of searching partly clear riverbanks. Finally, the downstream staged search will be described and advocated for searches in which there is a known point of immersion. The strong disadvantage of the searcher not having seen the downstream river before carrying out the search will be made.

S4 Candidates will understand how to report and record bank and river visibility conditions

Riverbanks will be defined as clear when the searcher has unobstructed access to the water margin over 75% of the reach. Where the margin cannot be reached over 75% of the search length due to obstructions such as vegetation, buildings etc. the bank will be defined as obscured. Where there is access to between 50% and 75% the bank is partly clear and where there is between 25% and 75% access the bank is partly obscured. This can be logged onto a river reach search form to record the bank conditions and also to indicate significant features. The radio operator will be responsible for this.

S5 Water Searching

Candidates will understand water hydraulics to be able to evaluate whether pools, eddies, stoppers, strainers or other features could create conditions for body entrapment. These can be recorded onto the search record and using the telescopic wading pole they can be dragged as far as practical.

S6 Candidates will demonstrate the ability to conduct water margin searches effectively

Candidates will carry out a search of a 250m stretch using the search configurations developed in the early sessions. The search will be recorded by the operators and the exercise debriefed.

S7 Candidates will understand the critical role of party management and briefing in bank team safety

The instructor will discuss search party management structures and the roles and responsibilities of those taking part. Clear forward planning principles should be developed by the party leader prior to the commencement of the search. Briefing the party should include access and egress plan, search methods, signals and comms within the party and between parties, accidental immersion signal and actions, recovery plan and get-out plan. The stretch to be searched should be described and key features identified. Procedures in case of hazards (falls, strainers etc) should be agreed to preserve party safety.

Rescue from Water

T1 Talk Rescue

Throughout the training the instructor will emphasise strong clear verbal and visual signals to help those in the water. This will range from clear instruction to swim to a particular location (the bank, a rock or a place of safety) as well as instruction to avoid hazards.

T2 Reach Rescue

The instructor will demonstrate reach rescues using the extended hand with and without a handrail, a wading pole and a telescopic wading pole. The ability of the swimmer to securely grasp the object will be discussed. The use of gaffing hooks to secure unresponsive victims will be discussed.

T3 Throw Rescue

This will be largely covered with throwlines, though the deliberate throwing of flotation material will also be covered.

T4 River Crossing

The in-team river crossing training will be reviewed and practiced to refresh all candidates. The use of wading poles as support will be covered as well as their use to probe underfoot conditions. Wading techniques described in the Flood Rescue Handbook will be considered along with the appropriate level of PPE to perform this function. The problem of carrying stretchers with casualties across becks and streams will be considered. Use of bank team members to protect a river crossing will be explored.

Debrief

D1 Candidates will understand the limitations of their training

The instructor will impress upon all candidates that attending this training does not equip them for undertaking in-water work. Those wishing to deliberately enter water outside the scope of the river crossing work have to attend further training. Peer pressure and mission creep will be discussed.

Candidates will be given a firm understanding of when it is appropriate to request the use of a water team.

D2 Candidates will understand the importance of ongoing training

The instructor will impress upon all candidates that attending this training is the start of a process of ongoing skills practice within teams. Throwline skills in particular should be regularly practiced to maintain proficiency.

D3 Water Quality

The health risk of contacting contaminated water will be discussed and the probability of encountering poor water quality in the rural environment will be stated. Routes for infection and contamination will be discussed and the use of alcohol gel after contact with water will be advocated.

D4 Working with Other Services

Systems of work used by particularly the Fire Service but also the RNLI and other volunteer groups will be discussed. The National Flood Rescue Framework, team typing and fire service water training modules will be examined.