



WATER SAFETY AND RESCUE TRAINING COURSES



**EMERGENCY RESPONDERS AND RESCUE
TEAMS**

About Rescue 3 Europe

Rescue 3 Europe develops state of the art technical rescue courses, providing internationally recognised accreditation for organisations and individuals operating in high risk environments.

As an international accrediting body, Rescue 3 provide up to date best practice guidance that is constantly evolving in line with new research and testing. All changes and developments of Rescue 3 courses go through a process of peer review and oversight by a steering committee made up of industry experts from all over the world.

Rescue 3 training providers deliver courses worldwide, in multiple disciplines, including: rope, water, boat, ice and confined space rescue. Our large suite of courses have been adopted by mountain rescue teams, wind turbine operators, fire and rescue services, ambulance teams, utilities providers, and military personnel.

Within each discipline, Rescue 3 accredited courses cover every level of operations, whether this is at an awareness level, avoiding risks and applying simple safe systems of work; or at more advanced levels where practitioners must acquire high levels of personal skills and understanding to access and navigate difficult environments.

For over four decades Rescue 3 has provided the standard for technical rescue training, offering guidance and support for maintaining best practice.





The course learning outcomes are provided as pre- and post-course reference for people involved in the delivery of Rescue 3 courses (eg Rescue 3 training providers, instructors and students). They are not to be used for any other purpose without the express written permission of Rescue 3 Europe.

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Water and Flood Awareness (AW)

Course overview and target audience

A classroom-based course, designed to provide personnel who may be working near water with sufficient knowledge to be aware of the hazards created by this environment, and develop an understanding of water rescue techniques.

The Water and Flood Awareness course is for those supporting rescue teams. The comparable course for personnel within industry who may be called to work near water is Water Awareness and Safety (WAS).

Contact hours 6 hours (1 day)	Prerequisites None
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Water and Flood Awareness Instructor (AWI)
- Basic Water Rescuer Instructor (BWRI)
- Swiftwater and Flood First Responder Instructor (SFRI)
- Whitewater Rescue Technician Instructor (WRTI)
- Swiftwater and Flood Rescue Technician Instructor (SRTI)
- Swiftwater and Flood Rescue Technician Advanced (Water) Instructor (SRTAWI)

Defra level

Module 1 - Water Awareness - General water safety awareness training and basic land-based rescue techniques.

Assessment

The assessed elements of this course are:

- Foundation knowledge



Water and Flood Awareness (AW) skill sheet contents

Theory	
1. Rescue 3 philosophy	
2. Training standards	
3. Best practice guidelines for water rescue	
4. Hydrology and water hazards	
5. Personal equipment	
6. Technical and team equipment	
7. Pre-planning	
8. Risk assessments	
9. Incident size-up considerations	
10. Incident management and site control	
11. Medical and decontamination considerations	
12. Considerations for night/poor visibility operations	
13. Mud, ice and unstable surface considerations	
14. Communications	
15. Accidental immersions considerations	
16. Floodwater dynamics and hazards	
17. Flood theory	
Practical	
18. Dry land practice of conditional rescues - talk, reach, throw (if used by agency)	

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Water and Flood Awareness (AW) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Water and Flood Awareness (AW) remit and role.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.
3	Best practice guidelines for water rescue	3.1	Explain how the Best Practice Guidelines for Water Rescue combine to produce safer working practice.	Best Practice Guidelines for Water Rescue (formerly known as 15 Absolutes).

AW



	Skill sheet element		Learning outcome	Key teaching points
4	Hydrology and water hazards	4.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving - flowing down gradient, eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. Swiftwater - fast moving, steeper gradient, eg steep rivers, drainage channels, flash flood conditions. Whitewater - fast moving, steeper gradient, used for kayaking, rafting.
		4.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increase in energy. Gradient - increase in speed. Obstacles - creation of retentive water features, impact risk, siphon/strainer risk.
		4.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		4.4	Describe the impact water features would have on individuals in water.	Force of water, river grading system, entrapments.
		4.5	Identify general water hazards, and suitable control measures.	Depth, temperature, weather.
		4.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapments, canals/canal locks, debris.
		4.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments.
5	Personal equipment	5.1	Identify personal protective equipment (PPE) for performing rescues in water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waistbelts, cowstails, lighting, eye protection, first aid kits, swim fins.
		5.2	Describe the issues and hazards of using non-water rescue PPE in the water.	Drowning.



	Skill sheet element		Learning outcome	Key teaching points
6	Technical and team equipment	6.1	Identify technical and team equipment for performing rescues in water.	Karabiners, slings, tapes, throwbags, canyon lines, buoyant aids, swim fins, wading poles, reach pole, basket stretcher.
7	Pre-planning	7.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		7.2	Identify sources of information useful for generic and task-/location-specific pre-planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		7.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.
8	Risk assessments	8.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		8.2	Identify the elements of an effective dynamic risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings.
		8.3	Perform a dynamic risk assessment of a rescue site.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings.
9	Incident size-up considerations	9.1	Recognise use of size-up models.	CHALET and METHANE.
		9.2	Explain the phases of a successful rescue of a co-worker.	Locate. Access. Stabilise. Transport.
		9.3	List rescue options.	Talk, reach, throw, go, tow, helo. Not a hierarchy of risk.
		9.4	Explain the difference between true and conditional rescues.	Ability of victim to participate.



	Skill sheet element		Learning outcome	Key teaching points
10	Incident management and site control	10.1	Based on hazard recognition, apply appropriate control measures, including site zoning.	Site zoning, chain of command, team roles.
		10.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.
		10.3	Recall different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.
11	Medical and decontamination considerations	11.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia, hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		11.2	Identify individuals at risk for common medical issues found in a water environment, and control measures to minimise this.	Victims in and around the water environment - hypothermia, drowning, infection, trauma. Rescuers - hypothermia, hyperthermia, drowning, infection, trauma. Control measures - PPE, training, decontamination, team welfare.
		11.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		11.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Work site assessment, appropriate footwear, site zoning, safety briefing.
12	Considerations for night/poor visibility operations	12.1	Identify hazards associated with night/poor visibility operations, and suitable control measures.	Hazards: visibility and communication difficulties, affecting timescales, tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
		12.2	Identify types of lighting used within night operations.	Snap lights, personal lights, scene lights, night vision goggles.



	Skill sheet element		Learning outcome	Key teaching points
13	Mud, ice and unstable surface considerations	13.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures.	Entrapment, contamination, specialised rescue equipment, ice quality/strength/thickness, temperature, access issues.
		13.2	Identify equipment and techniques used within swiftwater rescue that would have application within mud, ice and unstable surface rescues.	PPE, boats, sleds and inflatable platforms, reach tools including throwbags.
14	Communications	14.1	Recognise hand signals that can be used in a water environment.	OK, help, stop, direction, medical assistance.
		14.2	Recognise whistle signals that can be used in a water environment.	Stop, upstream, downstream, emergency.
		14.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.
15	Accidental immersion considerations	15.1	Identify hazards and control measures of accidental immersion in water.	Temperature, entrapment possibilities, PPE failure, injury.
		15.2	Recognise the importance of keeping feet up if swept away in moving water.	Entrapment risk, impact injury, line of sight, ability to receive a throwline.
16	Floodwater dynamics and hazards	16.1	Identify the physical impact of water flowing within an urban area.	Speed of water, flash flood, expansion, recovery, urban and roadside furniture including manhole covers, erosion, subsidence, storm drains.
		16.2	Identify contributing factors to physical, chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		16.3	Explain the effect of physical, chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, medical and decontamination.



	Skill sheet element		Learning outcome	Key teaching points
17	Flood theory	17.1	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery.
		17.2	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
		17.3	State what tasks an individual trained to this level would carry out during the phases of a flooding event.	AW remit and role in flood events.
18	Dry land practice of conditional rescues - talk, reach, throw (if used by agency)	18.1	Identify conditional rescue options and the limitations of conditional rescues (if used by agency).	Talk. Reach. Throw. Victim participation required.
		18.2	Identify, check and prepare suitable equipment for performing a conditional rescue on dry land (if used by agency).	Talk. Reach - pole, paddle, throwbag. Throw - buoyant object, eg life ring.
		18.3	Demonstrate the correct method for receiving a throwbag on dry land (if used by agency).	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. When being pulled in, don't wrap rope around body, rope over shoulder, stay on back when being recovered. Don't let go of rope until safely on bank.
		18.4	Practice a variety of conditional rescues on dry land (if used by agency).	Talk rescues. Reach rescue - reach pole, throwbag.
		18.5	Understand that dry land throwline practice does not expose rescuers to the forces, risks and difficulties of in-water throwbag rescues (if used by agency).	These techniques are covered in Rescue 3 courses such as SFR and BWR. People who are tasked operationally to perform rescues should undertake training with a practical in-water element, as on SFR or BWR.



Swiftwater and Flood First Responder (SFR)

Course overview and target audience

Swiftwater and Flood First Responders work around the water and undertake bank-based and shallow water wading rescues as part of an SFR team. They can also support teams of Swiftwater Rescue Technicians at an incident. A First Responder will have the ability to self-rescue and perform rescues of team members and casualties at the level to which they have been trained.

A First Responder will be expected to help and support in technical rescue. This may include providing downstream safety cover or assistance with casualty handling. Flooding operations may include evacuation of people from properties using shallow water working skills. At a scene of major flooding the Technicians may be in short supply and utilised for technical rescues. Therefore it is First Responders who will be used to undertake the majority of evacuations and safety provision.

Contact hours 12 hours (2 days)	Prerequisites Must be a confident swimmer Minimum age; 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Swiftwater and Flood First Responder Instructor (SFRI)
- Swiftwater and Flood Rescue Technician Instructor (SRTI)
- Swiftwater and Flood Rescue Technician Advanced (Water) Instructor (SRTAWI)
- Swiftwater and Flood Rescue Technician Advanced (Water and Rope) Instructor (SRTAI)

Defra level

Module 2 - Water First Responder - To work safely near and in water using land-based and wading techniques.

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming techniques
- Shallow water techniques
- Throwbags



Swiftwater and Flood First Responder (SFR) skill sheet contents

Theory	
1. Rescue 3 philosophy	
2. Training standards	
3. Best practice guidelines for water rescue	
4. Hydrology and water hazards	
5. Floodwater dynamics and hazards	
6. Flood theory	
7. Personal equipment	
8. Technical and team equipment	
9. Pre-planning	
10. Risk assessments	
11. Incident size-up	
12. Incident management and site control	
13. Medical and decontamination considerations	
14. Considerations for night/poor visibility operations	
15. Mud, ice and unstable surface considerations	
16. Introduction to searching rivers and floods	
17. Communications	
18. Vehicle Rescue Considerations	
Practical	
19. Swiftwater swimming techniques	
20. Strainer swim	
21. Conditional rescues - talk, reach, throw	
22. Shallow water techniques	
23. Casualty management	
24. People and equipment entrapments	
25. Tethered boat options (if used by agency)	
26. Inflated fire hose (if used by agency)	
27. Flat-water sled paddling (if used by agency)	

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Swiftwater and Flood First Responder (SFR) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses.
		2.2	Recall the remit and role of an individual trained to this level (SFR).	Swiftwater and Flood First Responder (SFR) remit and role. The remit and role of a Swiftwater and Flood First Responder is to work near and in water, using land-based and wading techniques. They may work as part of an SFR team, or alongside an SRT team. As an SFR team, they can complete SFR-level techniques, as taught on their Rescue 3 SFR course. When working alongside an SRT team, they may help and support the SRTs at a level appropriate to their training, eg downstream backup, upstream spotters, wading rescues. First Responders should not be tasked with performing rescue techniques outside their level of training.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local and international standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and standard operating guidelines.	Agency policy and standard operating guidelines.
3	Best practice guidelines for water rescue	3.1	Apply the Best Practice Guidelines for Water Rescue to produce safer working practice.	Best Practice Guidelines for Water Rescue.



	Skill sheet element		Learning outcome	Key teaching points
4	Hydrology and water hazards	4.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving any body of water that flows downstream eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. (Coastal estuaries will flow in different directions, depending on the state of the tide). Swiftwater - fast moving water, often with a steep gradient, eg steep rivers, drainage channels, flash flood channels. Whitewater - fast moving water, steep gradient rivers. A term generally used by kayakers, rafters and other outdoor professionals.
		4.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increases the energy of the water. Gradient - increases the speed of the water. Obstacles - creates a number of water features that may be retentive. Obstacles may create an impact and/or entrapment risk.
		4.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		4.4	Describe the impact water features would have on individuals in water.	Eg weirs and stoppers/holes can retain an individual within the feature. Trees and roadside furniture can create strainers to entrap swimmers. Grade and type of river (eg shallow, deep, rocky), and the likelihood to cause harm.
		4.5	Identify general water hazards, and suitable control measures.	Weather (summer, winter). Air temperature, water temperature and its effect on rescuers and casualties. Depth - ability to wade?
		4.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapment risks (eg artificial and natural debris, such as shopping trolleys and tree roots), canals/canal locks, and how they may affect casualties and rescuers.
		4.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments, and how and when they may affect casualties and rescuers.



	Skill sheet element		Learning outcome	Key teaching points
5	Floodwater dynamics and hazards	5.1	Identify the effect of floodwater flowing within an urban area.	Flash flood phase, expansion phase, recovery phase. Speed of water through restrictions. Creation of retentive water features. Entrapment risks, such as urban and roadside furniture. Conditions leading to the lifting of inspection covers, also creating entrapment risks. Erosion and subsidence of features, eg access roads and riverbanks.
		5.2	Identify industrial chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		5.3	Identify control measures linked to chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, avoidance, and decontamination.
6	Flood theory	6.1	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery. Eg speed of water, pollution levels, debris.
		6.2	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
		6.3	State what tasks an individual trained to this level would carry out during the phases of a flooding event.	The remit and role of a Swiftwater and Flood First Responder is to work near and in water, using land-based and wading techniques. They may work as part of an SFR team, or alongside an SRT team. As an SFR team, they can complete SFR-level techniques, as taught on their Rescue 3 SFR course. When working alongside an SRT team, they may help and support the SRTs at a level appropriate to their training, eg downstream backup, upstream spotters, wading rescues. First Responders should not be tasked with performing rescue techniques outside their level of training.



	Skill sheet element		Learning outcome	Key teaching points
7	Personal equipment	7.1	Identify personal protective equipment (PPE) for operating and performing rescues in water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waistbelts, cowstails, lighting, eye protection, first aid kits, swim fins.
		7.2	Select appropriate PPE for operating and performing rescues in water, perform pre-use checks, donning and buddy checks.	CE standards, PPE inspection, buddy checks, correctly sized.
		7.3	Recall post-use care and inspection procedures for personal equipment.	PPE inspection and recording, drying, storage and care.
8	Technical and team equipment	8.1	Identify technical and team equipment for operating in and performing rescues in water.	Karabiners, slings, tapes, throwbags, canyon lines, wading poles, reach pole, basket stretcher.
		8.2	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection and recording, drying, storage, transportation.
9	Pre-planning	9.1	Recall the four components of a generic pre-plan.	Management, personnel, training, equipment.
		9.2	Identify sources of information useful for generic and task-/ location-specific pre-planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		9.3	Describe key information that should be included within a pre-plan.	Accident hotspots in county. Risk assessments (generic and site-specific) Access and egress to rivers at typical levels and in flood events. Topography. Response plan.



	Skill sheet element		Learning outcome	Key teaching points
10	Risk assessments	10.1	Identify the elements of an effective generic or site-specific risk assessment	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		10.2	Identify the elements of an effective dynamic risk assessment	Real time process ensuring actual situational risks are identified, evaluated and managed that may not be covered by written risk assessment process. Constantly re-evaluated.
		10.3	Perform a dynamic risk assessment of a rescue site	Real time process ensuring actual situational risks are identified, evaluated and managed that may not be covered by written risk assessment process. Constantly re-evaluated.
11	Incident size-up	11.1	Recall use of size-up models	Eg CHALET and METHANE.
		11.2	Explain the phases of a successful rescue	Locate. Access. Stabilise. Transport.
		11.3	Perform an on-site safety brief based on risk assessments	What we face What we are going to do Why we are going to do that Hazards Any concerns?
		11.4	List rescue options and relate them to team remit	Talk, reach, throw (SFR and above). Go, tow (SRT and above) Helo. Not a hierarchy of risk.
		11.5	Explain the difference between true and conditional rescues	Ability of victim to participate.
		11.6	Select an appropriate plan of action for a given incident	Decision-making models, such as TEMPOE.



	Skill sheet element		Learning outcome	Key teaching points
12	Incident management and site control	12.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders at a rescue scene.	Site zoning, chain of command, team roles.
		12.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, eg onlookers, media and family members of casualty, creating moral pressure, and jeopardising both operations and their own safety.
		12.3	Identify different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.
		12.4	Apply appropriate roles at a water incident, relative to the remit of SFR training.	SFR-level rescues and roles.
13	Medical and decontamination considerations	13.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia, hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		13.2	Identify individuals at risk for common medical issues found in a water environment, and control measures to minimise this.	Victims in and around the water environment - hypothermia, drowning, infection, trauma, strains and sprains. Rescuers - hypothermia, hyperthermia, drowning, infection, trauma, strains and sprains. Control measures - PPE, training, fitness levels of rescuers and pre-existing injuries, decontamination, appropriate warm-up for rescuers before any strenuous physical rescue, team welfare, manual and people handling considerations, eg for stretchers.
		13.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		13.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Rescue site assessment, appropriate footwear, site zoning, safety briefing.



	Skill sheet element		Learning outcome	Key teaching points
14	Considerations for night/poor visibility operations	14.1	Identify hazards associated with night/poor visibility operations, and suitable control measures.	Hazards: visibility and communication difficulties, affecting timescales, tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
		14.2	Identify types of lighting used within night operations.	Snap lights, personal lights, scene lights, night vision goggles.
15	Mud, ice and unstable surface considerations	15.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures.	Entrapment, contamination, specialised rescue equipment, ice quality/strength/thickness, temperature, access issues.
		15.2	Identify equipment and techniques used within swiftwater rescue that would have application within mud, ice and unstable surface rescues.	PPE, boats, sleds and inflatable platforms, reach tools including throwbags.



	Skill sheet element		Learning outcome	Key teaching points
16	Introduction to searching rivers and floods	16.1	Identify appropriate search models.	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors.
		16.2	State what tasks an individual trained to this level would carry out during a river-based primary search.	Reconnaissance including identifying hazards, identifying locations for secondary search, shout and listen techniques, quick visual sweeps. Reporting.
		16.3	State what tasks an individual trained to this level would carry out during a river-based secondary search.	Searching identified hotspots from the bank.
		16.4	State what tasks an individual trained to this level would carry out during a flood-based primary search.	Reconnaissance including identifying hazards, identifying locations for secondary search, house to house shout and listen techniques, quick visual sweeps. Reporting.
		16.5	State what tasks an individual trained to this level would carry out during a flood-based secondary search.	Secondary search low coverage - searching hotspots highlighted in primary search. Secondary search high coverage - full search of buildings, removal of debris from buildings, no further searching will take place after this. Potential for body recovery. Body recovery considerations.
17	Communications	17.1	Recognise hand signals that can be used in a water environment.	OK, help, stop, direction, medical assistance.
		17.2	Recognise whistle signals that can be used in a water environment.	Stop, upstream, downstream, emergency.
		17.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.



	Skill sheet element		Learning outcome	Key teaching points
18	Vehicle rescue considerations	18.1	Identify reason why vehicles end up in rovers and floodwater, and steps taken to reduce this.	Urgent need to reach destination. Ignoring advice or signs. Over-confidence in vehicle's ability. Unaware of the danger. Suicide attempt. Driving into floodwater.
		18.2	Describe the forces acting on a vehicle when in water, and how these affect vehicle stability.	Weight of vehicle, stream force, frictional force, buoyancy of vehicle.
		18.3	Recall the remit of an SFR when rescuing from vehicles in water.	Any water environment where an SFR can use their skillset, including moving water environments where they can wade or flooding events. If a vehicle requires anchoring/securing, then this is beyond SFR remit.



	Skill sheet element		Learning outcome	Key teaching points
19	Swiftwater swimming techniques	19.1	Demonstrate the defensive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		19.2	Demonstrate the aggressive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		19.3	Transition between the defensive and aggressive swimming positions.	Defensive (head upstream), simple log roll to aggressive (head upstream). Defensive (head upstream), bringing knees to chest, keep legs near surface and swing to the side, to aggressive (head downstream). Keeping legs near surface minimises entrapment issues and decreases risk of impact with in-water features such as rocks.
		19.4	Adjust body angle relative to the current vector.	Ferry angles, methods of adjusting body angle.
		19.5	Apply swimming techniques, angle control and momentum to perform a variety of tasks.	Defensive swimming, aggressive swimming, transition from defensive to aggressive, ferry gliding, eddy line techniques, slalom course, breathing techniques, river-reading skills. Increasing and decreasing momentum. Practical session in swiftwater environment, progressing to minimum grade 2 water.



	Skill sheet element		Learning outcome	Key teaching points
20	Strainer swim	20.1	Identify strainers and the hazards they pose to rescuers and casualties in the water.	Entrapment, impact injury, drowning.
		20.2	Understand that strainers should be avoided.	Strainers should be avoided.
		20.3	Understand the consequences of going underneath a strainer.	Subsurface hazards are unknown: blockages and entrapments are highly likely.
		20.4	Identify rescue options for a casualty in a strainer.	Considerations based on training of rescuers. Eg SFR: team wade, tethered boat (if used by agency).
		20.5	Using a strainer simulator, demonstrate and compare aggressive and defensive approaches to the simulator.	Defensive: slow speed by use of backward arm movement. Fend off with feet and attempt to move along to the end of the strainer. Usually used if unable to swim over strainer, due to obstructions above the surface Potential to be swept underneath the strainer, unless correct technique is used. If swept under strainer, important to protect face on impact with the strainer. Aggressive: speed of approach and timing crucial. Set up early. More likely to get up and over the strainer if top of strainer is clear of obstructions, impact injury a possibility on face and body. Protect as much as possible and be aware of possible snag hazards.

SFR



	Skill sheet element		Learning outcome	Key teaching points
21	Conditional rescues - talk, reach, throw	21.1	Identify conditional rescue options and the limitations of conditional rescues.	Talk. Reach. Throw. Victim participation required.
		21.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach - solid object such as pole, paddle, stick. Throw - throwbag, buoyant object, eg life ring.
		21.3	Identify appropriate sites where conditional rescues can be performed.	Which river features and in-water physical hazards may prevent a successful rescue? Appropriate eddies to recover casualty. Use of downstream backup and upstream spotters.
		21.4	Demonstrate the correct method for receiving a throwbag.	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. Once you have hold of the rope, try to put it over the shoulder furthest away from the rescuer. When being pulled in, don't wrap rope around body, keep rope over shoulder, stay on back when being recovered. Don't let go of rope until safely on bank. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		21.5	Perform a variety of conditional rescues.	Eg talk, reach pole, throwbag. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		21.6	Identify methods of managing force directed on rescuer and victim as water speed increases.	Dynamic vs static belay. Dynamic: rescuer/belayer moving downstream, paying out of line to reduce shock-loading, hazards underfoot, eg loose or slippery riverbank. Static: , appropriate site choice, appropriate eddies for recovery.



	Skill sheet element		Learning outcome	Key teaching points
22	Shallow water techniques	22.1	Identify the variables and hazards that will directly affect shallow water techniques.	Water speed, depth, channel bed morphology, number of personnel and their ability and level of training, equipment.
		22.2	Perform single and team-based shallow water techniques.	Individual, line astern, line abreast, wedge, use of wading pole, with and without tether.
		22.3	Explain the application of tethered shallow water techniques.	Releasable harness and training in its use. When and where it should be used, eg extra security and easier recovery for rescuers if they lose their footing. Single and group tethered techniques.
		22.4	Explain how the addition of a casualty would affect shallow water techniques.	Appropriate team-based techniques, appropriate stretcher/transport method, protection of casualty from flow, downstream hazards. Ensure casualty is not tied in to stretcher. Appropriate manual/people handling techniques for stretcher when recovering to dry land.
		22.5	Demonstrate (on bank or in water) an emergency release, using a quick release harness on a buoyancy aid.	Practical activity of harness release on the bank or in water, simulating a tethered wader needing to undertake an emergency harness release.
23	Casualty management	23.1	Identify hazards and control measures associated with casualty management in a moving water environment.	Weather, water temperature, and their effects on a person in the water. Bank access and conditions for the rescuers (eg slippery, rocky). In-water features that may cause harm. Casualty behaviour (calm or stressed, helping or hindering the rescue?) Possible response whilst being rescued, and control measures for difficult casualties.
		23.2	Identify appropriate PPE for casualties.	Buoyancy aid and helmet as required by transport options.
		23.3	Identify priorities for managing casualties' common medical issues.	Airway, breathing, circulation (ABC), spinal management, trauma injuries.



	Skill sheet element		Learning outcome	Key teaching points
24	People and equipment entrapments	24.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood.	River bed morphology, snag hazards, submersion, trauma. Defensive swimming position. Training.
		24.2	Identify extrication methods of an entrapped casualty.	Hands-on methods, wading, single bank access, twin bank access.
		24.3	Identify risks to the rescuers of an entrapped casualty.	Access difficulties, river bed morphology, snag hazards, river depth, upstream vs. downstream access, access to both banks, hands-on techniques, wading vs access from bank, timescales involved in performing a rescue.
		24.4	On dry land, demonstrate use of stabilisation line from one and two banks.	Single and twin bank entrapment techniques.
25	Tethered boat techniques (if used by agency)	25.1	Compare the application and limitations of single-, 2- and 4-point tethered systems.	Single point tether. Single point tether with ladder. 2- and 4-point boat techniques.
		25.2	Relate river flow, intended use and catastrophic failure consequences to anchor selection and belay methods for tethered boats.	River volume, water speed, bank access and terrain, upstream and downstream hazards, appropriate belay techniques, site choice.
		25.3	Use a tethered boat for transportation and mid-stream access, if used by agency.	Set up 2- or 4-point boat system in an environment suitable for SFR teams.



	Skill sheet element		Learning outcome	Key teaching points
26	Inflated fire hose (if used by agency)	26.1	Identify agency use or non-use of inflated fire hose.	Agency policy. Agency standard operating guidelines. Access to appropriate inflation equipment.
		26.2	Identify the hazards and control measures of working with compressed air.	Safety valves, pressure indication, thermal protection, explosion protection, air inlet/outlet monitoring, transport and storage considerations.
		26.3	Inflate and deflate a section of hose, if used by agency.	Knowledge of inflation equipment used, safe use of compressed air system.
		26.4	Perform conditional rescues with a fire hose in both basic and moving water environments, if used by agency.	Reach rescue using fire hose as a team.
		26.5	Identify inflated fire hose rescue options.	Tensioned diagonal. Reach rescue - flat water and weir/hydraulic. Lowering from bridge - simple drop in, Long Beach and/or Charlotte method.
27	Flat-water sled paddling (if used by agency)	27.1	Identify how load and trim will affect the performance of a sled.	Aim to keep the boat light; avoid placing too much weight towards the bow or stern, or to either side of the sled.
		27.2	Demonstrate basic paddling manoeuvres on flat/basic water.	Paddle in a straight line; turn left and right; controlled 180° turn.





Swiftwater and Flood Rescue Technician (SRT)

Course overview and target audience

This training course is intended for those who will be required to carry out rescues in a swiftwater and flood environment.

The course is based on the philosophy of self-protection and judgement when applying low to high risk solutions.

Contact hours 24 hours (4 day)	Prerequisites Must be a confident swimmer. Minimum age: 18.
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Swiftwater and Flood Rescue Technician Instructor (SRTI)
- Swiftwater and Flood Rescue Technician Advanced (Water) Instructor (SRTAWI)
- Swiftwater and Flood Rescue Technician Advanced (Water and Rope) Instructor (SRTAI)

Defra level

Module 3 - Water Rescue Technician - Specialist rescue operation.

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming techniques
- Throwbags
- Knots and anchor systems
- Tensioning systems and mechanical advantage



Swiftwater and Flood Rescue Technician (SRT) skill sheet contents

SRT

Theory
1. Rescue 3 philosophy
2. Training standards
3. Best practice guidelines for water rescue
4. Hydrology and water hazards
5. Floodwater dynamics and hazards
6. Flood theory
7. Personal equipment
8. Technical and team equipment
9. Pre-planning
10. Risk assessments
11. Incident size-up
12. Incident management and site control
13. Medical and decontamination considerations
14. Considerations for night/poor visibility operations
15. Mud, ice and unstable surface considerations
16. Introduction to searching rivers and floods
17. Helicopter familiarisation
18. Communications
19. Weir (low head dam) rescue considerations
20. Introduction to rescues from vehicles in water
21. Animal rescue considerations

Practical
22. Swiftwater swimming techniques
23. Strainer swim
24. Conditional rescues - talk, reach, throw
25. Shallow water techniques
26. Tethered boat techniques
27. Tensioned diagonals
28. Line crossing methods
29. Belay systems
30. True rescues - tethered
31. People and equipment entrapments
32. Casualty management
33. Knots and anchor systems
34. Tensioning systems and mechanical advantage
35. Inflated fire hose (if used by agency)
36. Introduction to paddle boat handling (if used by agency)
37. Boat unwrapping (if used by agency)
38. Flips and rights (if used by agency)

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Swiftwater and Flood Rescue Technician (SRT) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Swiftwater and Flood Rescue Technician (SRT) remit and role.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.
3	Best practice guidelines for water rescue	3.1	Apply the Best Practice Guidelines for Water Rescue combine to produce safer working practice.	Best Practice Guidelines for Water Rescue (formerly known as 15 Absolutes).

SRT



	Skill sheet element		Learning outcome	Key teaching points
4	Hydrology and water hazards	4.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving - flowing down gradient, eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. Swiftwater - fast moving, steeper gradient, eg steep rivers, drainage channels, flash flood conditions. Whitewater - fast moving, steeper gradient, used for kayaking, rafting.
		4.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increase in energy. Gradient - increase in speed. Obstacles - creation of retentive water features, impact risk, siphon/strainer risk.
		4.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		4.4	Describe the impact water features would have on individuals in water.	Force of water, river grading system, entrapments.
		4.5	Identify general water hazards, and suitable control measures.	Depth, temperature, weather.
		4.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapments, canals/canal locks, debris.
		4.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments.



	Skill sheet element		Learning outcome	Key teaching points
5	Floodwater dynamics and hazards	5.1	Identify the physical impact of water flowing within an urban area.	Speed of water, flash flood, expansion, recovery, urban and roadside furniture including manhole covers, erosion, subsidence, storm drains.
		5.2	Identify contributing factors to physical, chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		5.3	Explain the effect of physical, chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, medical and decontamination.
6	Flood theory	6.1	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery.
		6.2	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
		6.3	State what tasks an individual trained to this level would carry out during the phases of a flooding event.	SRT remit and role in flood events.
7	Personal equipment	7.1	Identify personal protective equipment (PPE) for operating and performing rescues in water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waist belts, cowstails, lighting, eye protection.
		7.2	Select appropriate PPE for operating and performing rescues in water, perform pre-use checks, donning and buddy checks.	CE standards, PPE inspection, buddy checks.
		7.3	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, drying, storage and care.
8	Technical and team equipment	8.1	Identify technical and team equipment for operating in and performing rescues in water.	Karabiners, slings, tapes, throwbags, canyon lines, buoyant aids, swim fins, wading poles, reach pole, basket stretcher, first aid kits.
		8.2	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection, drying, storage, transportation.



	Skill sheet element		Learning outcome	Key teaching points
9	Pre-planning	9.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		9.2	Identify sources of information useful for generic and task-/ location-specific pre-planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		9.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.
10	Risk assessments	10.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		10.2	Identify the elements of an effective dynamic risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings, review your assessment and update if necessary.
		10.3	Perform a dynamic risk assessment of a rescue site.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings, review your assessment and update if necessary.
11	Incident size-up	11.1	Demonstrate use of size-up models.	CHALET and METHANE.
		11.2	Explain the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		11.3	Perform an on-site safety brief based on risk assessments.	Highlight relevant hazards that will affect the rescue.
		11.4	List rescue options.	Talk, reach, throw, go, tow, helo. Not a hierarchy of risk.
		11.5	Explain the difference between true and conditional rescues.	Ability of victim to participate.
		11.6	Select an appropriate plan of action for a given incident.	Decision-making models, such as TEMPOE.



	Skill sheet element		Learning outcome	Key teaching points
12	Incident management and site control	12.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders at a rescue scene.	Site zoning, chain of command, team roles.
		12.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.
		12.3	Apply different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.
		12.4	Collate relevant information in order to deliver structured messages regarding an incident.	G-SMEAC.
		12.5	Apply a simple structure and centralised command, in order to brief and manage a team.	Designating roles. Apply G-SMEAC. Ensuring two-way communication.
13	Medical and decontamination considerations	13.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia, hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		13.2	Identify individuals at risk for common medical issues found in a water environment, and control measures to minimise this.	Victims in and around the water environment - hypothermia, drowning, infection, trauma. Rescuers - hypothermia, hyperthermia, drowning, infection, trauma. Control measures - PPE, training, decontamination, team welfare.
		13.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		13.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Rescue site assessment, appropriate footwear, site zoning, safety briefing.
14	Considerations for night/poor visibility operations	14.1	Identify hazards associated with night/poor visibility operations, and suitable control measures.	Hazards: visibility and communication difficulties, affecting timescales, tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
		14.2	Identify types of lighting used within night operations.	Snap lights, personal lights, scene lights, night vision goggles.



	Skill sheet element		Learning outcome	Key teaching points
15	Mud, ice and unstable surface considerations	15.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures.	Entrapment, contamination, specialised rescue equipment, ice quality/strength/thickness, temperature, access issues.
		15.2	Identify equipment and techniques used within swiftwater rescue that would have application within mud, ice and unstable surface rescues.	PPE, boats, sleds and inflatable platforms, reach tools including throwbags.
16	Introduction to searching rivers and floods	16.1	Identify appropriate search models.	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors.
		16.2	State what tasks an individual trained to this level would carry out during a river-based primary search.	Reconnaissance including identifying hazards, fast moving between hotspots, identifying locations for secondary search. Reporting.
		16.3	State what tasks an individual trained to this level would carry out during a river-based secondary search.	Searching identified hotspots. Use of specialised assets, eg sub-surface dive team, tethered boats, bathyscopes.
		16.4	State what tasks an individual trained to this level would carry out during a flood-based primary search.	Reconnaissance including identifying hazards, identifying locations for secondary search, house to house shout and listen techniques, quick visual sweeps. Reporting.
		16.5	State what tasks an individual trained to this level would carry out during a flood-based secondary search.	Secondary search low coverage - searching hotspots highlighted in primary search. Secondary search high coverage - full search of buildings, removal of debris from buildings, no further searching will take place after this. Potential for body recovery. Body recovery considerations.
17	Helicopter familiarisation	17.1	Identify hazards and control measures associated with helicopters.	Noise, downwash, communication difficulties, landing area, overhead power lines, trees etc.



	Skill sheet element		Learning outcome	Key teaching points
18	Communications	18.1	Recognise hand signals that can be used in a water environment.	OK, help, stop, direction, medical assistance.
		18.2	Recognise whistle signals that can be used in a water environment.	Stop, upstream, downstream, emergency.
		18.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.
19	Weir (low head dam) rescue considerations	19.1	Identify the hazards and control measures for both victim and rescuer in a hydraulic/weir.	Retentive nature, in-water debris, entrapment risks.
		19.2	Identify weir rescue options.	Conditional reach techniques - throwbags, inflated fire hose, reach pole, tethered buoyant object. Helicopter.
20	Introduction to rescues from vehicles in water	20.1	Identify reasons why vehicles end up in rivers and floodwater, and steps taken to reduce this.	Urgent need to reach destination. Ignoring advice or signs. Over-confidence in vehicle's ability. Unaware of the danger. Suicide attempt. Driving into floodwater.
		20.2	Describe the forces acting on a vehicle when in the water, and how these affect vehicle stability.	Weight of vehicle, stream force, frictional force, buoyancy of vehicle.
		20.3	Explain why and how a vehicle should be stabilised whilst in the water, and factors influencing this decision.	Preventing vehicle movement, glass management, appropriate stops/slides, correct angle of stabilisation line, bombproof anchors, access to single or twin banks.
		20.4	Identify methods of accessing and egressing a vehicle in water.	Boat, sled, platform, tethered boat options, tensioned diagonal, shallow water techniques, swiftwater swimming techniques.
		20.5	Identify factors affecting vehicle stability when extricating victims.	Current flow and water depth, rescuers accessing vehicle, casualties exiting vehicle, depressurisation, effect of anchors on vehicle.



	Skill sheet element		Learning outcome	Key teaching points
21	Animal rescue considerations	21.1	Identify hazards and control measures associated with animal rescue.	Panicked/stressed/injured animals, victims unwilling to leave pets, type of animal. Cages, muzzles, extricating with owner.
		21.2	Identify transport considerations for animal rescue.	Cages, size of animal, behaviour of animal.
22	Swiftwater swimming techniques	22.1	Demonstrate the defensive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		22.2	Demonstrate the aggressive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		22.3	Transition between the defensive and aggressive swimming positions.	Rolling techniques, entrapment issues, increased risk of impact on in-water features.
		22.4	Adjust body angle relative to the current vector.	Ferry angles, methods of adjusting body angle.
		22.5	Apply swimming techniques, angle control and momentum to perform a variety of tasks.	Defensive swimming, aggressive swimming, transition from defensive to aggressive, ferry gliding, eddy line techniques, slalom course, breathing techniques, river-reading skills. Increasing and decreasing momentum. Practical session in swiftwater environment, progressing to minimum grade 2 water.



	Skill sheet element		Learning outcome	Key teaching points
23	Strainer swim	23.1	Identify strainers and the hazards they pose to rescuers and casualties in the water.	Entrapment, injury.
		23.2	Understand that strainers should be avoided.	Strainers should be avoided.
		23.3	Understand the consequences of going underneath a strainer.	Subsurface hazards are unknown: blockages and entrapments are highly likely.
		23.4	Identify rescue options for a casualty in a strainer.	Considerations based on training of rescuers. Eg team wade, tethered boat (SFR and above), team wade, tethered boat, V-lower (SRT and above).
		23.5	Using a strainer simulator, demonstrate and compare aggressive and defensive approaches to the simulator.	Defensive: can fend off with feet and work along to the end. More potential to be swept underneath the strainer, but greater protection from impacts. Protection of face on impact with the strainer. Aggressive: speed of approach and timing. More likely to get up and over the strainer, but also more open to injury.



	Skill sheet element		Learning outcome	Key teaching points
24	Conditional rescues - talk, reach, throw	24.1	Identify conditional rescue options and the limitations of conditional rescues.	Talk. Reach. Throw. Victim participation required.
		24.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach - pole, paddle, throwbag. Throw - buoyant object, eg life ring.
		24.3	Identify appropriate sites where conditional rescues can be performed.	River features, appropriate eddies, downstream backup, upstream spotter, in-water physical hazards.
		24.4	Demonstrate the correct method for receiving a throwbag.	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. When being pulled in, don't wrap rope around body, rope over shoulder, stay on back when being recovered. Don't let go of rope until safely on bank. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		24.5	Perform a variety of conditional rescues.	Talk rescues. Reach rescue - reach pole, throwbag. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		24.6	Identify methods of managing force directed on rescuer and victim during a reach rescue as water speed increases.	Rescuer/belayer moving downstream, paying out of line, appropriate site choice, appropriate eddies for recovery.
25	Shallow water techniques	25.1	Identify the variables and hazards that will directly affect shallow water techniques.	Water speed, depth, channel bed morphology, personnel, equipment.
		25.2	Perform single and team-based shallow water techniques in a moving water environment.	Individual, line astern, line abreast, wedge, use of wading pole.
		25.3	Explain the application of tethered shallow water techniques in a moving water environment.	Single and group tethered techniques.
		25.4	Explain how the addition of a casualty would affect shallow water techniques.	Appropriate team-based techniques, appropriate stretcher/transport method, protection of casualty from flow, downstream hazards.



	Skill sheet element		Learning outcome	Key teaching points
26	Tethered boat techniques	26.1	Compare the application and limitations of single-, 2- and 4-point tethered systems.	Single point tether. Single point tether with ladder. 2- and 4-point boat techniques.
		26.2	Relate river flow, intended use and catastrophic failure consequences to anchor selection and belay methods for tethered boats.	River volume, water speed, bank access and terrain, upstream and downstream hazards, appropriate belay techniques, site choice.
		26.3	Use a tethered boat for transportation and mid-stream access.	Set up 2- or 4-point boat system.
27	Tensioned diagonals	27.1	Explain why it is important for a tensioned diagonal to be tensioned and at the correct angle to the current vector.	Correct tension to ensure angle is maintained. Correct angle to ensure object or person on line isn't held mid-stream.
		27.2	Identify why the downstream end of a tensioned diagonal must be releasable.	If person or object becomes held mid-stream, releasing allows pendulum into bank.
		27.3	Demonstrate appropriate use of a tensioned diagonal.	Anchors, knots, mechanical advantage system, correct angle, releasable, sling recovery system if applicable.
28	Line crossing methods	28.1	Identify the variables that would influence methods for crossing a line over a channel.	Span, weather conditions, overhead obstructions, availability of bridge, water conditions, equipment, personnel, in-channel hazards.
		28.2	Identify appropriate methods of crossing a line over a channel.	Walk (eg bridge). Throw/launch. Shallow water techniques. Tethered boat. Tethered swim.
		28.3	Demonstrate a variety of methods of crossing a line over a channel.	Some/all of walk, throw/launch, shallow water techniques, tethered boat, tethered swim.
29	Belay systems	29.1	Demonstrate appropriate use and application of friction-based and mechanical belay devices.	Italian hitch. Mechanical belay devices. Personnel belay on steep banks, use in tethered boat operations. Reeve, pay out, take in, tie off.
		29.2	Identify considerations for choosing a belay.	Water speed, load, ability to release.



	Skill sheet element		Learning outcome	Key teaching points
30	True rescues - tethered	30.1	Identify the hazards and control measures associated with a tethered swim in a moving water environment.	In-water debris, bank access, rope management, casualty behaviour, use of buoyant aids, team backup.
		30.2	Set-up and demonstrate an in-water emergency release using the quick release harness on a buoyancy aid.	Attach a floating line to quick release harness. Demonstrate in-water release.
		30.3	Identify how water speed and distance will affect timing of a tethered swim.	Site choice, timing of water entry, belayer forces, water speed.
		30.4	Demonstrate a true rescue using a tethered swim.	In-water casualty. Demonstrate long swim to casualty in low grade water. Wade then swim. Demonstrate different water entry - flat water entry, short swim, with close recovery eddy.
		30.5	Demonstrate correct rope management when performing a tethered rescue.	Rope management for rescuer - short coils in-hand. Rope management for belayer - allow for rescuer's dynamic water entry, prevent drag whilst swimming, prevent entanglement with rescuer, recovery into designated eddy.
31	People and equipment entrapments	31.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood.	River bed morphology, snag hazards, submersion, trauma. Defensive swimming position. Training.
		31.2	Identify extrication methods of an entrapped casualty.	Hands-on methods, wading, single bank access, twin bank access.
		31.3	Identify risks to the rescuers of an entrapped casualty.	Access difficulties, river bed morphology, snag hazards, river depth, upstream vs. downstream access, access to both banks, hands-on techniques, wading vs access from bank, timescales involved in performing a rescue.
		31.4	On dry land, demonstrate use of stabilisation line from one and two banks.	Single and twin bank entrapment techniques.
		31.5	Compare the merits and hazards of using hands-on techniques, when approaching from upstream and downstream.	Speed of access, lack of need for rope management, ability to create an eddy. Hazards - entrapment risk, number of rescuers needed in hot zone.



	Skill sheet element		Learning outcome	Key teaching points
32	Casualty management	32.1	Identify hazards and control measures associated with casualty management in a moving water environment.	Weather, water temperature, bank access, bank conditions, in-water features, panicking casualty.
		32.2	Identify appropriate PPE for casualties.	Buoyancy aid and helmet as required by transport options.
		32.3	Identify priorities for managing casualties' common medical issues.	Airway, breathing, circulation (ABC), spinal management, trauma injuries.
		32.4	Demonstrate techniques for managing casualties' common medical issues, including airway and C-spine.	Airway, breathing, circulation (ABC), C-spine rolls.
33	Knots and anchor systems	33.1	Be able to identify, tie and check appropriate knots for swiftwater rescue.	Overhand. Figure of 8. Alpine butterfly. No knot. Italian hitch. Clove hitch. Double fisherman's. Appropriate dressing of knot.
		33.2	Recall factors affecting knot choice for swiftwater rescue applications.	Ability to release under load. Ease of tying. Appropriate for task.
		33.3	Identify use of anchor systems in swiftwater rescue.	Tensioned diagonals. Tethered boats. Rescues from vehicles in water. Bombproof anchor. Load-sharing. Load-distributing.
		33.4	Be able to select an appropriate single anchor point, and create an attachment point.	Use of open and closed slings. Basket hitch. Wrap three pull two. Bombproof anchor.
		33.5	Tie load-sharing and load-distributing anchor systems.	Use of slings and ropes to create 2-point load-sharing and load-distributing anchors.
34	Tensioning systems and mechanical advantage	34.1	Identify the need for mechanical advantage systems within swiftwater rescue.	Tensioned diagonals, boat and equipment unwrapping.
		34.2	Identify why external mechanical advantage systems are applied.	Ability to use and move external mechanical advantage system to other areas of the rescue scene, equipment shortage.
		34.3	Build and check appropriate internal and external mechanical advantage systems for use within swiftwater rescue.	Simple internal 3:1 and 5:1 and compound internal 9:1 systems that can be reset and have progress capture. External system, eg 3:1 or 4:1. Correct and safe use by personnel. Line failure considerations whilst under tension.



	Skill sheet element		Learning outcome	Key teaching points
35	Inflated fire hose (if used by agency)	35.1	Identify agency use or non-use of inflated fire hose.	Agency policy. Agency standard operating guidelines. Access to appropriate inflation equipment.
		35.2	Identify the hazards and control measures of working with compressed air.	Safety valves, pressure indication, thermal protection, explosion protection, air inlet/outlet monitoring, transport and storage considerations.
		35.3	Inflate and deflate a section of hose, if used by agency.	Knowledge of inflation equipment used, safe use of compressed air system.
		35.4	Perform conditional rescues with a fire hose in both basic and moving water environments, if used by agency.	Reach rescue using fire hose as a team.
		35.5	Identify inflated fire hose rescue options.	Tensioned diagonal. Reach rescue - flat water and weir/hydraulic. Lowering from bridge - simple drop in, Long Beach and/or Charlotte method.
36	Introduction to paddle boat handling (if used by agency)	36.1	Identify agency use or non-use of paddle boats.	Agency policy and standard operating guidelines.
		36.2	Identify the importance of correct trim and power distribution.	Crew seating positions, paddle commands, timing.
		36.3	Be able to paddle forwards, backwards and turn.	Paddle techniques, and teamwork.
		36.4	Recognise the importance of applying angle before forward momentum.	Timing of paddle commands, don't fight crew, turn boat in direction of travel, then apply power.
		36.5	Apply simple command within the boat, in order to achieve simple objectives.	Teamwork and paddle commands.



	Skill sheet element		Learning outcome	Key teaching points
37	Boat unwrapping (if used by agency)	37.1	Identify methods to minimise the likelihood of a wrapped boat.	Training, practice, experience, judgement. River-reading skills, weight distribution, site choice.
		37.2	Identify how the movement of weight may help to unbalance a wrapped boat.	Wrapped boat assessment. Forces acting on boat. Crew distribution.
		37.3	Recall the application of rope systems for evacuating a wrapped boat, and unwrapping.	Consideration for crew members' evacuation. Peel and pull, anchors, angles, mechanical advantage. Upstream spotters, downstream backup. Considerations for catastrophic failure of tensioned lines.
38	Flips and rights (if used by agency)	38.1	Identify steps to minimise the likelihood of a flip occurring.	Training, practice, experience, judgement. River-reading skills, weight distribution, site choice.
		38.2	Recall the sequence once a boat has flipped.	Climb on upturned boat, head count, decision to flip, crew placement around boat, use of flip line, flip boat, recovery into boat.
		38.3	Explain options for whether to re-flip, and variables that would affect this choice.	Type of river (eg pool drop, continuous rapid), river depth, crew ability, ability to paddle upturned boat to shore, time/distance to downstream hazards.
		38.4	Perform a re-flip and recovery.	Demonstrate flat water flip and recovery of boat and crew.
		38.5	Perform crew and casualty recovery into a boat.	Individual and team recovery techniques - forwards, backwards, rolling.
		38.6	Identify casualty placement on a boat.	Type of boat used, number of crew, amount of equipment carried, injuries sustained by casualty, number of casualties.





Swiftwater and Flood Rescue Technician Advanced - Water (SRTA-W)

Course overview and target audience

The Swiftwater and Flood Rescue Technician Advanced – Water course is for existing Rescue 3 Swiftwater and Flood Rescue Technicians looking at advanced rescue situations both in and over water including search management in a swiftwater and flood environment.

Technicians who are working towards their Swiftwater and Flood Rescue Technician Instructor (SRTI) qualification will need to do the SRTA-Water as a prerequisite to their Instructor Training course.

Contact hours 18 hours (3 days)	Prerequisites Swiftwater and Flood Rescue Technician (SRT) Minimum age: 18.
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Swiftwater and Flood Rescue Technician Advanced (Water) Instructor (SRTAWI)
- Swiftwater and Flood Rescue Technician Advanced (Water and Rope) Instructor (SRTAI)

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming techniques
- Throwbags
- Knots and anchor systems
- Tensioning systems and mechanical advantage



Swiftwater and Flood Rescue Technician Advanced - Water (SRTA-W) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards
3. Risk assessments
4. Incident size-up
5. Incident management and site control
6. Weir risk assessment
Practical
7. Swiftwater swimming techniques
8. Conditional rescues - talk, reach, throw
9. True rescues - tethered
10. Hydraulic/weir rescues
11. Tethered boats in high energy water
12. Night/poor visibility operations
13. Knots and anchor systems
14. Belay systems
15. Tensioning systems and mechanical advantage
16. Casualty care and packaging
17. Low angle stretcher attending
18. Boat-based stretcher management
19. In-water stretcher management
20. Introduction to search management
21. Search exercises
22. Introduction to paddle boat handling in moving water (if used by agency)
23. Boat unwrapping (if used by agency)
24. Flips and rights (if used by agency)
25. Team/personal recovery into boat (if used by agency)

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Swiftwater and Flood Rescue Technician Advanced - Water (SRTA-W) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Swiftwater and Flood Rescue Technician Advanced - Water (SRTA-W) remit and role. Higher quality of practical skills compared with SRT. Have a greater range of rescue solutions which can be utilised in rescue situations.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.
3	Risk assessments	3.1	Identify the elements of an effective dynamic risk assessment.	Identify the hazards throughout the rescue site. Decide who might be harmed and how, evaluate the risks and decide on control measures to minimise or eliminate risk, implement your findings, review your assessment and update if necessary.
		3.2	Perform a dynamic risk assessment of a complex rescue site.	Identify the hazards throughout the rescue site, decide who might be harmed and how, evaluate the risks and decide on control measures to minimise or eliminate risk, implement your findings, review your assessment and update if necessary. Complexity added through nature of water, time pressures through casualty condition, number of personnel.

SRTA-W



	Skill sheet element		Learning outcome	Key teaching points
4	Incident size-up	4.1	Perform an on-site safety brief based on risk assessments.	Highlight relevant hazards that will affect the rescue.
		4.2	Select an appropriate plan of action for a given complex incident.	Decision-making models, such as TEMPOE. Complexity added through nature of water, time pressures through casualty condition, number of personnel.
5	Incident management and site control	5.1	Apply different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer (including upstream spotters and downstream backup), medic.
		5.2	Collate relevant information in order to deliver structured messages regarding an incident.	G-SMEAC.
		5.3	Apply a simple structure and centralised command, in order to brief and manage a team.	Designating roles. Apply G-SMEAC. Ensuring two-way communication.
6	Weir risk assessment	6.1	Identify the key features that can make a hydraulic/weir dangerous, and their impact on both victim and rescuer.	Towback, depth of hydraulic, height of drop, face height and angle, floating debris, uniformity, sides of hydraulic, orientation of hydraulic to flow, downstream hazards, composition of river bed.
		6.2	Perform a Rescue 3 weir risk assessment.	Complete Rescue 3 weir risk assessment.
		6.3	Relate the Rescue 3 weir risk assessment to rescue options.	Conditional and true rescue techniques based on weir risk assessment.
7	Swiftwater swimming techniques	7.1	Select swimming techniques, angle control and momentum to perform a variety of tasks in moving water.	Progression of swimming level above technician level. Advanced technicians to choose appropriate techniques for water conditions without direction.
8	Conditional rescues - talk, reach, throw	8.1	Work as a team to perform multiple and complex rescues using conditional rescue techniques.	Complexity added through nature of water, time pressures through casualty condition, number of personnel. Both static and mobile rescues. Advanced technicians to choose appropriate techniques for water conditions without direction.



	Skill sheet element		Learning outcome	Key teaching points
9	True rescues - tethered	9.1	Work as a team to perform multiple and complex rescues using true rescue techniques.	Complexity added through nature of water, time pressures through casualty condition, number of personnel. Both static and mobile rescues. Advanced technicians to choose appropriate techniques for water conditions without direction.
10	Hydraulic/weir rescues	10.1	Perform rescues from a hydraulic/weir.	Self-rescue. Conditional reach techniques, eg throwbags, inflated fire hose, reach pole, tethered buoyant object. True rescue techniques, eg tethered rescue, tethered boat. Relate to weir risk assessment.
11	Tethered boats in high energy water	11.1	Identify the limitations of hand-controlled tethers for boats.	Water speed, load, craft, bank access, consequences of catastrophic failure.
		11.2	Construct tethered boat solutions that increase the system's ability to deal with force and increase redundancy.	Eg single point tether from a tree, appropriate belay techniques and equipment.
		11.3	Build and operate a boat on a highline.	Build boat on a highline, including slipping clutch eg Prusik or untied off I'D. Choice of reeving option.
		11.4	Compare boat on a highline reeving options and variables that would affect their application.	English reeve, Norwegian reeve, 1:1 with a change of direction.
12	Night/poor visibility operations	12.1	Identify hazards associated with night/poor visibility operations, and apply suitable control measures.	Hazards: visibility and communication difficulties, affecting timescales, tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
		12.2	Perform a risk assessment and operate at night/in poor visibility.	Perform appropriate site choice for swim session and rescue scenario- eg compare with daytime, or use easier venue. Appropriate lighting for all personnel and equipment.



	Skill sheet element		Learning outcome	Key teaching points
13	Knots and anchor systems	13.1	Identify, tie and check appropriate knots for swiftwater rescue.	Overhand. Figure of 8. Alpine butterfly. No knot. Italian hitch. Clove hitch. Double fisherman's. Appropriate dressing of knot.
		13.2	Recall factors affecting knot choice for swiftwater rescue applications.	Ability to release under load. Ease of tying. Appropriate for task.
		13.3	Select appropriate anchor points and/or systems for task.	Meet strength, alignment and redundancy requirements.
14	Belay systems	14.1	Select an appropriate belay method for task.	Meet strength, alignment and redundancy requirements.
15	Tensioning systems and mechanical advantage	15.1	Select, build and check appropriate mechanical advantage systems for use within advanced swiftwater rescue.	Build a variety of and compare simple, compound and complex mechanical advantage systems.
16	Casualty care and packaging	16.1	Identify medical issues that may require casualties to be transported by stretcher.	Illness, injury.
17	Low angle stretcher attending	17.1	Employ techniques to protect personnel when moving a stretcher over rough or steep terrain.	Safety lines, caterpillar, talus belay, mechanical advantage.
18	Boat-based stretcher management	18.1	Identify when to use a stretcher in a boat.	Client needs, number of team members, recovery into boat, type of boat, space in boat, environmental conditions.
		18.2	Identify the different types of stretcher used for boat-based transport.	Basket stretcher, scoop stretcher, or as used by agency.
		18.3	Identify risks of strapping a casualty into stretcher/boat.	Risk assessment of boat, crew, casualty and environmental conditions. Circumstances where it may be appropriate.
		18.4	Identify best placement and securing of stretcher within different boat types.	Type of boat, space available, rescue equipment carried, number of crew.
		18.5	Perform loading and transferring of a stretcher from shallow and deep water into rescue boat.	Sinking of stretcher, recovery using team hinge and pivot, teamwork.



	Skill sheet element		Learning outcome	Key teaching points
19	In-water stretcher management	19.1	Identify when to utilise a stretcher in a water environment.	Client needs, number of team members, type of stretcher, environmental conditions.
		19.2	Identify risks of strapping a casualty into stretcher to be transported in a water environment.	Risk assessment of personnel, casualty and environmental conditions. Circumstances where it may be appropriate.
		19.3	Compare techniques for moving stretchers around in the water.	Use of shallow water wedge techniques, hand over hand, safety lines, flotation.
20	Introduction to search management	20.1	Demonstrate use of appropriate search models.	Application of Koester's bike wheel model.
		20.2	Collate information gathered in the primary phase of a water search.	Point last seen, time last seen. Missing persons data informing search radius, and hotspots.
		20.3	Calculate a search area based on a given scenario.	Point last seen, time last seen. Missing persons data informing search radius. Consideration of historic data, and statistical outliers.
		20.4	Assign tasks to individuals during a river-based search.	Primary search - reconnaissance, fast moving between hotspots, identifying locations for secondary search. Reporting. Secondary search - searching identified hotspots. Use of specialised assets, eg sub-surface dive team, tethered boats, bathyscopes.
		20.5	Assign tasks to individuals during a flood-based search.	Primary search - Reconnaissance, identifying locations for secondary search, house to house shout and listen techniques, quick visual sweeps. Reporting. Secondary search low coverage - searching hotspots highlighted in primary search. Secondary search high coverage - full search of buildings, removal of debris from buildings, no further searching will take place after this. Potential for body recovery. Body recovery considerations.



	Skill sheet element		Learning outcome	Key teaching points
21	Search exercises	21.1	Perform a primary search.	Reconnaissance, fast moving between hotspots, identifying locations for secondary search. Reporting.
		21.2	Segment a search area, based on information gathered.	Use of maps to segment a search area from an initial planning point (IPP).
		21.3	Redeploy to perform a secondary search.	Searching identified hotspots. Use of specialised assets, eg tethered boats, bathyscopes.
22	Introduction to paddle boat handling on moving water (if used by agency)	22.1	Identify agency use or non-use of paddle boats.	Agency policy. Agency standard operating guidelines.
		22.2	Identify the importance of correct trim and power distribution.	Crew seating positions, paddle commands, timing.
		22.3	Be able to paddle forwards, backwards and turn in moving water.	Paddle techniques, and teamwork in a moving water environment.
		22.4	Apply angle to a current, in order to ferry glide.	Perform ferry gliding exercises. Angle. Weight distribution.
		22.5	Recognise the importance of applying angle before momentum.	Timing of paddle commands, don't fight crew, turn boat in direction of travel, then apply power.
		22.6	Apply simple command within the boat, in order to achieve simple objectives in moving water.	Teamwork and paddle commands.
		22.7	Break in and break out of the flow in a paddle boat.	Perform break in and break out. Trim, angle, application of power, timing.
23	Boat unwrapping (if used by agency)	23.1	Identify methods to minimise the likelihood of a wrapped boat.	Training, practice, experience, judgement. River-reading skills, weight distribution, site choice.
		23.2	Identify how the movement of weight may help to unbalance a wrapped boat.	Wrapped boat assessment. Forces acting on boat. Crew distribution.
		23.3	Recall the application of rope systems for evacuating a wrapped boat, and unwrapping.	Consideration for crew members' evacuation. Peel and pull, anchors, angles, mechanical advantage. Upstream spotters, downstream backup. Considerations for catastrophic failure of tensioned lines.



	Skill sheet element		Learning outcome	Key teaching points
24	Flips and rights (if used by agency)	24.1	Identify steps to minimise the likelihood of a flip occurring.	Training, practice, experience, judgement. River-reading skills, weight distribution, site choice.
		24.2	Recall the sequence once a boat has flipped.	Climb on upturned boat, head count, decision to flip, crew placement around boat, use of flip line, flip boat, recovery into boat.
		24.3	Explain options for whether to re-flip, and variables that would affect this choice.	Type of river (eg pool drop, continuous rapid), river depth, crew ability, ability to paddle upturned boat to shore, time/ distance to downstream hazards.
		24.4	Perform a re-flip and recovery.	Demonstrate flat water flip and recovery of boat and crew.
25	Team/personal recovery into boat (if used by agency)	25.1	Identify reasoning behind team/self-rescue ability into boat.	Compare ease of self-rescue vs team recovery and when each technique may be needed.
		25.2	Perform team-based rescue (or self-rescue) over sponson whilst in deep water.	Forwards, backwards, roll, Jason's cradle/slides.
		25.3	Perform recovery, starting from all crew members in deep water.	Individual and team recovery techniques.





Basic Water Rescuer - Foundation (BWR-F)

Course overview and target audience

The Basic Water Rescuer - Foundation course is intended for personnel who may be deployed to basic (still) water environments, such as lakes, ponds, and canals, where they may be required to carry out rescues using foundational equipment. This course does not cover flood environments, as the specific hazards and dynamics associated with moving water are not addressed. Personnel requiring a flood rescue capability should instead undertake the Swiftwater and Flood First Responder (SFR) course. Additional equipment, eg use of sleds, is covered in the Basic Water Rescue (BWR) course.

Contact hours 6 hours (1 day)	Prerequisites Must be a confident swimmer. Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Basic Water Rescuer Instructor (BWRI)
- SFRI, SRTI or SRTAWI, who has also observed/attended a BWR-F or BWR course

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Basic water swimming techniques
- Throwbags



Basic Water Rescuer - Foundation (BWR-F) skill sheet contents

Theory	
1. Rescue 3 philosophy	
2. Training standards	
3. Basic water hydrology and water hazards	
4. Personal equipment	
5. Technical and team equipment	
6. Pre-planning	
7. Risk assessment	
8. Incident size-up	
9. Incident management and site control	
10. Medical and decontamination considerations	
11. Considerations for night/poor visibility operations	
12. Mud, ice and unstable surface considerations	
13. Communications	
14. Search considerations in basic water	
15. Entrapment considerations in basic water	
Practical	
16. Water entry and exit in basic water	
17. Wading techniques in basic water	
18. Basic water swimming techniques	
19. Conditional rescues from basic water - talk, reach, throw	
20. True rescues from basic water - tethered, untethered	
21. Casualty management in basic water	
If used by agency	
22. Masks (if used by agency)	
23. Fins (if used by agency)	



Basic Water Rescuer - Foundation (BWR-F)

learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry level courses, water rescue courses, boat rescue courses, rope rescue courses, confined space rescue courses, ice rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Basic Water Rescuer - Foundation (BWR-F) remit and role. Basic (still) water environments, such as lakes, ponds, and canals. Does not cover use of sleds. Does not cover flood environments.
		2.3	Recall other national and international standards.	Rescue 3 scheme and courses which do and don't coincide with other standards such as Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.

BWR-F



	Skill sheet element		Learning outcome	Key teaching points
3	Basic water hydrology and water hazards	3.1	Recall the definitions of basic water, moving water, costal water, swiftwater and whitewater.	Basic water – typically still, flat water, eg lakes, ponds, canals. Moving water – flowing down a gradient, eg streams, rivers, drainage channels. Coastal water – eg coastal sea, ocean, estuaries. Swiftwater – fast moving, steep rivers, drainage channels, flood environments. Whitewater – fast moving, steeper gradient, used for kayaking and rafting.
		3.2	Identify the specific hazards associated with still water environments and understand how the lack of water movement influences hazard recognition and rescue planning.	Lake/canal bed morphology, entrapments, canals/canal locks, debris.
		3.3	Identify general water hazards.	Depth, temperature, weather.
		3.4	Recognise the hazards associated with water management systems.	Potential for water movement effecting water depth, movement or both. Eg penstocks, canal locks or similar features.
4	Personal equipment	4.1	Identify personal protective equipment (PPE) for performing rescues in basic water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waistbelts, cowstails, lighting, eye protection, first aid kits.
		4.2	Select appropriate PPE for performing rescues in basic water; perform pre-use checks, donning and buddy checks.	CE standards, PPE inspection, buddy checks.
		4.3	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, drying, storage and care.
5	Technical and team equipment	5.1	Identify technical and team equipment for performing rescues in a basic water environment.	Throwbags, floating ropes, karabiners, buoyancy aids, floating rescue adjunct, wading poles, reach pole. Additional equipment used at BWR (not BWR-F) level including sleds, stretcher, bathyscope.
		5.2	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection, drying, storage, transportation.



	Skill sheet element		Learning outcome	Key teaching points
6	Pre-planning	6.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		6.2	Identify sources of information useful for generic and task-/ location-specific pre-planning.	Water level information, weather forecasts, dam releases, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		6.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.
7	Risk assessment	7.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		7.2	Identify the elements of an effective dynamic risk assessment.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by the written risk assessment process.
		7.3	Perform a dynamic risk assessment of a rescue site.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by the written risk assessment process.
8	Incident size-up	8.1	Demonstrate use of size-up models.	CHALET or METHANE.
		8.2	Explain the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		8.3	Perform an on-site safety brief based on risk assessments.	Highlight relevant hazards that will affect the rescue.
		8.4	List rescue options.	Conditional such as; talk, reach or throw. True such as; tethered or untethered swim.
		8.5	Explain the difference between true and conditional rescues.	Ability of casualty to participate: can = conditional, cannot = true.
		8.6	Select an appropriate plan of action for a given incident.	Decision-making models, such as TEMPOE.



	Skill sheet element		Learning outcome	Key teaching points
9	Incident management and site control	9.1	Based on hazard recognition, apply appropriate control measures, including site zoning.	Site zoning, chain of command, team roles. Hot, warm, cold zones.
		9.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.
10	Medical and decontamination considerations	10.1	Identify signs/symptoms and treatment for common medical issues found in a water environment, for casualties and rescuers.	Hypothermia, Hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		10.2	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		10.3	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Work site assessment, appropriate footwear, site zoning, safety briefing.
11	Considerations for night/poor visibility operations	11.1	Identify hazards associated with night/poor visibility operations.	Hazards: visibility and communication difficulties, affecting timescales tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
12	Mud, ice and unstable surface considerations	12.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures for a basic water environment.	Mud: Entrapment, contamination, specialist rescue equipment. Ice: increase risk of slips/falls and how this impacts zoning. Unstable surface: subsurface considerations and how this can impact personnel/rescue plans.
13	Communications	13.1	Recognise hand signals that can be used in a basic water environment.	OK, help, stop, direction, medical assistance.
		13.2	Recognise whistle signals that can be used in a basic water environment.	Stop/attention, distress.
		13.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.



	Skill sheet element		Learning outcome	Key teaching points
14	Search considerations in basic water	14.1	Identify relevant information that should be passed on to search managers.	Report incident to relevant emergency services. Passing on relevant information of missing person.
		14.2	Explain the importance of establishing a point last seen, time last seen and search area.	Missing person data informing search radius.
		14.3	Identify the variables that affect the search area.	Topography, weather, water levels.
		14.4	Recall Koester's bike wheel analogy, as it applies to basic water, specifically the hub.	Hub: Should be searched as a priority and to a high degree of coverage. In still water, the radius of the search area is equal to the depth of water. This is accurate for >95% of cases.
15	Entrapment considerations in basic water	15.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood.	Lake/pond/canal bed morphology, snag hazards, submersion, trauma. Conservative water entry techniques, in-water PPE (floatation), rescue equipment (knife), safe system of work (SSoW – chest release harness).
16	Water entry and exit in basic water	16.1	Identify hazards and suitable control measures when entering and exiting the water.	Steep banks, slippery surfaces, difficulty of access and egress, slips trips and falls. Appropriate PPE/footwear, work site assessment, site zoning, safety briefing.
		16.2	Identify a safe entry to and exit point from the water.	In-water physical hazards, debris, ease of bank access.
		16.3	Demonstrate correct water entry to and exit from the water.	Appropriate entry and exit point, depth, in-water physical hazards, flat (non-sub-surface entry).
17	Wading techniques in basic water	17.1	Identify the variables and hazards that will directly affect wading techniques in a basic water environment.	Water depth, bed morphology, personal equipment.
		17.2	Perform wading techniques in a basic water environment.	Individual, team, use of wading pole.
		17.3	Explain the application of tethered wading techniques in a basic water environment.	The pros and cons of single or multiple person tethers.



	Skill sheet element		Learning outcome	Key teaching points
18	Basic water swimming techniques	18.1	Demonstrate swimming on back (similar to the defensive position in a moving water environment).	When and why. Swimmer can rest, can take a breath if there is fetch (waves). Keeps body position higher and possibly free of subsurface hazards.
		18.2	Demonstrate swimming on front (similar to the aggressive swimming position in a moving water environment).	When and why. Rapid access. Faster swimming style.
		18.3	Demonstrate swimming with a floating rescue adjunct.	When and why. To assist casualty floatation.
		18.4	Transition between swimming on front/back.	Rolling techniques.
19	Conditional rescues in basic water – talk, reach, throw	19.1	Identify conditional rescue options and the limitations of conditional rescues.	Talk. Reach. Throw. Casualty participation required.
		19.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach – pole, paddle. Throw – throwbag, buoyant object, eg life ring or float.
		19.3	Identify appropriate sites when conditional rescues can be performed.	In water physical obstructions, bank hazards. Equipment and distance to casualty.
		19.4	Demonstrate the correct method for receiving a throwbag following accidental immersion.	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. When being pulled in, don't wrap rope around body, hold rope close to chest, stay on back when being recovered. Don't let go of the rope until safely on bank.
		19.5	Perform a variety of conditional rescues.	Talk rescues. Reach rescue – reach pole, throwbag.



	Skill sheet element		Learning outcome	Key teaching points
20	True rescues in basic water – tethered, untethered	20.1	Identify the hazards and control measures associated with an untethered swim in a basic water environment.	In-water debris, bank access, casualty behaviour, use of buoyant aids, team back-up.
		20.2	Identify the hazards and control measures associated with a tethered swim in a basic water environment.	In-water debris, bank access, rope management, casualty behaviour, use of buoyant aids, team back-up.
		20.3	Use the quick-release harness on buoyancy aid to demonstrate an in-water emergency release.	Attach a floating rope to quick release harness. Demonstrate in-water release.
		20.4	Demonstrate correct rope management that ensures the swimmer is not impeded.	Rope management for rescuer. Rope management for belayer.
		20.5	Demonstrate a true rescue using a tethered swim in basic water.	In-water casualty. Demonstrate long swim to casualty in basic water with tether. Wade then swim. Demonstrate different water entry.
		20.6	Demonstrate a true rescue using untethered swim in basic water.	In-water casualty. Demonstrate long swim to casualty in basic water without a tether. Wade then swim. Demonstrate different water entry.
		20.7	Demonstrate the use of a floating rescue adjunct during a true rescue swim.	True rescue swim (tethered or untethered) with floating rescue adjunct.
21	Casualty management in basic water	21.1	Identify hazards and control measures associated with casualty management in a basic water environment.	Weather, water temperature, bank access, bank conditions, in-water features, panicking casualty.
		21.2	Identify priorities for managing casualties in water.	Rapid evacuation from environment. Airway.
		21.3	Identify appropriate transport of casualty.	Tethered/untethered swim. (Rescue sleds are covered at BWR level, not BWR-F).
22	Masks (if used by agency)	22.1	Identify the hazards and control measures associated with the use of masks.	In-water debris, equipment compatibility, eg helmet and mask.
		22.2	Identify agency use of masks.	Agency policy and standard operating procedures.
		22.3	Demonstrate appropriate use of mask.	Tethered swim using mask.



	Skill sheet element		Learning outcome	Key teaching points
23	Fins (if used by agency)	23.1	Identify the hazards and control measures associated with the use of fins.	In-water debris, equipment compatibility, eg boots and fins.
		23.2	Identify agency use of fins.	Agency policy and standard operating procedures.
		23.3	Demonstrate appropriate use of fins.	Tethered swim using fins.



Basic Water Rescuer (BWR)

Course overview and target audience

The Basic Water Rescuer course is intended for personnel who may be deployed to basic (still) water environments, such as lakes, ponds, and canals, where they may be required to carry out rescues. This course does not cover flood environments, as the specific hazards and dynamics associated with moving water are not addressed. Personnel requiring a flood rescue capability should instead undertake the Swiftwater and Flood First Responder (SFR) course.

Contact hours 12 hours (2 days)	Prerequisites Must be a confident swimmer. Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Basic Water Rescuer Instructor (BWRI)
- Swiftwater and Flood First Responder Instructor (SFRI), Swiftwater and Flood Rescue Technician Instructor (SRTI), or Swiftwater and Flood Rescue Technician Advanced Water Instructor (SRTAWI) who has successfully undertaken a Basic Water Rescuer (BWR) course.

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Basic water swimming techniques
- Shallow water techniques
- Tethered rescue



Basic Water Rescuer (BWR) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards
3. Basic water hydrology and water hazards
4. Personal equipment
5. Technical and team equipment
6. Pre-planning
7. Risk assessment
8. Incident size-up
9. Incident management and site control
10. Medical and decontamination considerations
11. Considerations for night/poor visibility operations
12. Mud, ice and unstable surface considerations
13. Communications
14. Search considerations in basic water
15. Entrapment considerations in basic water
Practical
16. Water entry and exit in basic water
17. Wading techniques in basic water
18. Basic water swimming techniques
19. Conditional rescues from basic water - talk, reach, throw
20. True rescues from basic water - tethered, untethered
21. Rescue sleds
22. Casualty management in basic water
23. Knots for basic water rescue
If used by agency
24. Rescue boards (if used by agency)
25. Masks (if used by agency)
26. Fins (if used by agency)
27. Inflated fire hose (if used by agency)

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Basic Water Rescuer (BWR) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses. Ice rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Basic Water Rescuer (BWR) remit and role. Basic (still) water environments, such as lakes, ponds, and canals. Does not cover flood environments.
		2.3	Recall other national and international standards.	Rescue 3 courses which do and don't coincide with other standards such as Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.



	Skill sheet element		Learning outcome	Key teaching points
3	Basic water hydrology and water hazards	3.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water – typically still, flat water, eg lakes, ponds, canals. Moving water – flowing down a gradient, eg streams, rivers, drainage channels. Coastal water – eg coastal sea, ocean, estuaries. Swiftwater – fast moving, steep rivers, drainage channels, flood environments. Whitewater – fast moving, steeper gradient, used for kayaking and rafting.
		3.2	Identify the specific hazards associated with still water environments and understand how the lack of water movement influences hazard recognition and rescue planning.	Lake/canal bed morphology, entrapments, canals/canal locks, debris. Misleading perception of safety in basic water. Reduced visibility and water clarity, eg water entry etc. Entrapment risks from vegetation and debris. Limited water movement affecting casualty drift/movement.
		3.3	Identify general water hazards.	Depth, temperature, weather.
		3.4	Recognise the hazards associated with water management systems.	Potential for water movement effecting water depth, movement or both. Eg penstocks, canal locks or similar features.
		3.5	Recall hazards in moving water, beyond the remit of a Basic Water Rescuer.	Undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments.



	Skill sheet element		Learning outcome	Key teaching points
4	Personal equipment	4.1	Identify personal protective equipment (PPE) for performing rescues in basic water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waistbelts, cowstails, lighting, eye protection, first aid kits. Masks and fins – if used by agency.
		4.2	Select appropriate PPE for performing rescues in basic water; perform pre-use checks, donning and buddy checks.	CE standards, PPE inspection, buddy checks.
		4.3	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, drying, storage and care.
5	Technical and team equipment	5.1	Identify technical and team equipment for performing rescues in a basic water environment.	Throwbags, floating ropes, karabiners, buoyancy aids, floating rescue adjunct, wading poles, reach pole, sleds, stretcher, bathyscope. Rescue boards, masks and fins – if used by agency.
		5.2	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection, drying, storage, transportation.
6	Pre-planning	6.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		6.2	Identify sources of information useful for generic and task-/ location-specific pre-planning.	Water level information, weather forecasts, dam releases, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		6.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.



	Skill sheet element		Learning outcome	Key teaching points
7	Risk assessment	7.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		7.2	Identify the elements of an effective dynamic risk assessment.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by the written risk assessment process.
		7.3	Perform a dynamic risk assessment of a rescue site.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by the written risk assessment process.
8	Incident size-up	8.1	Demonstrate use of size-up models.	CHALET or METHANE.
		8.2	Explain the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		8.3	Perform an on-site safety brief based on risk assessments.	Highlight relevant hazards that will affect the rescue.
		8.4	List rescue options.	Conditional, such as talk, reach or throw. True, such as tethered or untethered swim.
		8.5	Explain the difference between true and conditional rescues.	Ability of casualty to participate: can = conditional, cannot = true.
		8.6	Select an appropriate plan of action for a given incident.	Decision-making models, such as TEMPOE.
9	Incident management and site control	9.1	Based on hazard recognition, apply appropriate control measures, including site zoning.	Site zoning, chain of command, team roles. Hot, warm, cold zones.
		9.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.



	Skill sheet element		Learning outcome	Key teaching points
10	Medical and decontamination considerations	10.1	Identify signs/symptoms and treatment for common medical issues found in a water environment, for casualties and rescuers.	Hypothermia, Hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		10.2	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		10.3	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Work site assessment, appropriate footwear, site zoning, safety briefing.
11	Considerations for night/poor visibility operations	11.1	Identify hazards associated with night/poor visibility operations.	Hazards: visibility and communication difficulties, affecting timescales tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
12	Mud, ice and unstable surface considerations	12.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures for a basic water environment.	Mud: Entrapment, contamination, specialist rescue equipment. Ice: increase risk of slips/falls and how this impacts zoning. Unstable surface: subsurface considerations and how this can impact personnel/rescue plans.
13	Communications	13.1	Recognise hand signals that can be used in a basic water environment.	OK, help, stop, direction, medical assistance.
		13.2	Recognise whistle signals that can be used in a basic water environment.	Stop/attention, distress.
		13.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.



	Skill sheet element		Learning outcome	Key teaching points
14	Search considerations in basic water	14.1	Identify relevant information that should be passed on to search managers.	Report incident to relevant emergency services. Passing on relevant information of missing person.
		14.2	Explain the importance of establishing a point last seen, time last seen and search area.	Missing person data informing search radius.
		14.3	Identify the variables that affect the search area.	Topography, weather, water levels.
		14.4	Recall Koester's bike wheel analogy, as it applies to basic water, specifically the hub.	Hub: Should be searched as a priority and to a high degree of coverage. In still water, the radius of the search area is equal to the depth of water. This is accurate for >95% of cases.
15	Entrapment considerations in basic water	15.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood.	Lake/pond/canal bed morphology, snag hazards, submersion, trauma. Conservative water entry techniques, in-water PPE (floatation), rescue equipment (knife), safe system of work (SSoW – chest release harness).
16	Water entry and exit in basic water	16.1	Identify hazards and suitable control measures when entering and exiting the water.	Steep banks, slippery surfaces, difficulty of access and egress, slips trips and falls. Appropriate PPE/footwear, work site assessment, site zoning, safety briefing.
		16.2	Identify a safe entry to and exit point from the water.	In-water physical hazards, debris, ease of bank access.
		16.3	Demonstrate correct water entry to and exit from the water.	Appropriate entry and exit point, depth, in-water physical hazards, flat (non-sub-surface entry).
17	Wading techniques in basic water	17.1	Identify the variables and hazards that will directly affect wading techniques in a basic water environment.	Water depth, bed morphology, personal equipment.
		17.2	Perform wading techniques in a basic water environment.	Individual, team (with craft/sled), use of wading pole.
		17.3	Explain the application of tethered wading techniques in a basic water environment.	The pros and cons of single or multiple person tethers.



	Skill sheet element		Learning outcome	Key teaching points
18	Basic water swimming techniques	18.1	Demonstrate swimming on back (similar to the defensive position in a moving water environment).	When and why. Swimmer can rest, can take a breath if there is fetch (waves). Keeps body position higher and possibly free of subsurface hazards.
		18.2	Demonstrate swimming on front (similar to the aggressive swimming position in a moving water environment).	When and why. Rapid access. Faster swimming style.
		18.3	Demonstrate swimming with a floating rescue adjunct.	When and why. To assist casualty floatation.
		18.4	Transition between swimming on front/back.	Rolling techniques.
19	Conditional rescues in basic water – talk, reach, throw	19.1	Identify conditional rescue options and the limitations of conditional rescues.	Talk. Reach. Throw. Casualty participation required.
		19.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach – pole, paddle. Throw – throwbag, buoyant object, eg life ring or float
		19.3	Identify appropriate sites when conditional rescues can be performed.	In water physical obstructions, bank hazards. Equipment and distance to casualty.
		19.4	Demonstrate the correct method for receiving a throwbag following accidental immersion.	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. When being pulled in, don't wrap rope around body, hold rope close to chest, stay on back when being recovered. Don't let go of the rope until safely on bank.
		19.5	Perform a variety of conditional rescues.	Talk rescues. Reach rescue – reach pole, throwbag.



	Skill sheet element		Learning outcome	Key teaching points
20	True rescues in basic water – tethered, untethered	20.1	Identify the hazards and control measures associated with an untethered swim in a basic water environment.	In-water debris, bank access, casualty behaviour, use of buoyant aids, team back-up.
		20.2	Identify the hazards and control measures associated with a tethered swim in a basic water environment.	In-water debris, bank access, rope management, casualty behaviour, use of buoyant aids, team back-up.
		20.3	Use the quick-release harness on buoyancy aid to demonstrate an in-water emergency release.	Attach a floating rope to quick release harness. Demonstrate in-water release.
		20.4	Demonstrate correct rope management that ensures the swimmer is not impeded.	Rope management for rescuer. Rope management for belayer.
		20.5	Demonstrate a true rescue using a tethered swim in basic water.	In-water casualty. Demonstrate long swim to casualty in basic water with tether. Wade then swim. Demonstrate different water entry.
		20.6	Demonstrate a true rescue using untethered swim in basic water.	In-water casualty. Demonstrate long swim to casualty in basic water without a tether. Wade then swim. Demonstrate different water entry.
		20.7	Demonstrate the use of a floating rescue adjunct during a true rescue swim.	True rescue swim (tethered or untethered) with floating rescue adjunct.
21	Rescue sleds	21.1	Identify the hazards and control measures associated with the use of rescue sleds.	Capsize, In-water debris, rope management, team back-up, bank access.
		21.2	Demonstrate appropriate techniques for righting a capsize sled.	Flips and rights of capsize sled. Casualty awareness. Right sled.
		21.3	Demonstrate appropriate use or rescue sled.	Paddle tethered sled. Recover casualty to shore.
		21.4	Demonstrate appropriate use of rope attachment when using tethering rescue sled.	Use appropriate knots or equipment to tether rescue sled.
		21.5	Demonstrate correct rope management when using rescue sled.	Rope management for rescuer. Rope management for belayer.



	Skill sheet element		Learning outcome	Key teaching points
22	Casualty management in basic water	22.1	Identify hazards and control measures associated with casualty management in a basic water environment.	Weather, water temperature, bank access, bank conditions, in-water features, panicking casualty.
		22.2	Identify priorities for managing casualties in water.	Rapid evacuation from environment. Airway.
		22.3	Identify appropriate transport of casualty.	Tethered/untethered swim. Rescue sled.
		22.4	Identify the hazards associated with using stretcher straps on or in a basic water environment.	Do not use stretcher straps when operating in or over water (hot or warm zones).
23	Knots for basic water rescue	23.1	Be able to identify, tie and check appropriate knots for basic water rescue.	Overhand. Figure of 8 on the bight.
		23.2	Recall factors affecting knot choice for basic water rescue applications.	Ability to connect to rescuer, rescue sled or board. Connect/extend throwbags.
24	Rescue boards (if used by agency)	24.1	Identify the hazards and control measures associated with the use of rescue boards.	In-water debris, rope management, team back-up, bank access.
		24.2	Demonstrate appropriate use of rescue board.	Swim with tethered rescue board. Recover casualty to shore.
		24.3	Demonstrate appropriate use of rope attachment when using tethering rescue board.	Use appropriate knots or equipment to tether rescue board.
		24.4	Demonstrate correct rope management when using rescue board.	Rope management for rescuer. Rope management for belayer.
25	Masks (if used by agency)	25.1	Identify the hazards and control measures associated with the use of masks.	In-water debris, equipment compatibility, eg helmet and mask.
		25.2	Identify agency use of masks.	Agency policy and standard operating procedures.
		25.3	Demonstrate appropriate use of mask.	Tethered swim using mask.
26	Fins (if used by agency)	26.1	Identify the hazards and control measures associated with the use of fins.	In-water debris, equipment compatibility, eg boots and fins.
		26.2	Identify agency use of fins.	Agency policy and standard operating procedures.
		26.3	Demonstrate appropriate use of fins.	Tethered swim using fins.



	Skill sheet element		Learning outcome	Key teaching points
27	Inflated fire hose (if used by agency)	27.1	Identify agency use of inflated fire hose.	Agency policy. Agency standard operating guidelines. Access to appropriate inflation equipment.
		27.2	Identify the hazards and control measures of working with compressed air.	Safety valves, pressure indication, thermal protection, explosion protection, air inlet/outlet monitoring, transport and storage considerations.
		27.3	Inflate and deflate a section of hose.	Knowledge of inflation equipment used, safe use of compressed air system.
		27.4	Perform a conditional rescue using an inflated fire hose in a basic water environment.	Reach rescue using inflated fire hose as a team.



Weir Rescue (WR)

Course overview and target audience

This training course is intended for current Rescue 3 Swiftwater and Flood Rescue Technicians (SRT) or Whitewater Rescue Technician – Professionals (WRT-PRO) who wish to increase their knowledge and range of rescue techniques on or near weirs and low head dams.

This course can also be used to recertify SRT and WRT-PRO qualifications.

The Weir Rescue course can be taken as a 2-day course for existing in-date Rescue 3 SRTs or WRT-PROs. It can also be combined with an SRT recert or WRT-PRO recert (3 days) to enable an SRT or WRT-PRO qualification to recertify.

Contact hours 12 hours (2 days)	Prerequisites Swiftwater and Flood Rescue Technician (SRT) or Whitewater Rescue Technician - Professional (WRT-PRO) Minimum age: 18.
Qualification valid for 3 years	Accredited by Rescue 3 Europe

WR

Taught by

- Weir Rescue Instructor (WRI)

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming techniques
- Throwbags
- Knots and anchor systems
- Tensioning systems and mechanical advantage



Weir Rescue (WR) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Weir types, construction and hydrology
3. Weir risk assessment
4. Helicopter familiarisation
5. Weir rescue case studies
6. Boat on a highline theory
Practical
7. Foundation skills
8. Weir rescues - conditional
9. Weir rescues - true
10. Tethered boat techniques
11. Boat on a highline
12. Scenarios
13. Inflated fire hose (if used by agency)

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Weir Rescue (WR) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement. We can only provide training on a training level course.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Weir types, construction and hydrology	2.1	Identify different weir types and their effect on victims and rescuers.	Weir shape, U shaped, diagonal, broad crested, v shaped, height of face, length of tow back, retentive nature, closed ends.
		2.2	Identify weir construction and their common uses.	Anti scour lips, concrete/stone/ wood construction, natural weirs. Used to control water levels, hydro power, to decrease energy of flow, fish ladders.
		2.3	Identify weir hydrology and how it affects victims and rescuers.	Towback, depth of hydraulic, height of drop over weir, slope of face of weir, boil line, floating debris in hydraulic, uniformity of hydraulic, sides of weir (closed by physical sides or strong eddies) orientation of weir to flow, additional hazards in/downstream of weir, composition of river bed at the base of the weir.
		2.4	Identify how and where weirs can form in a flood environment.	Road furniture, broken walls, bridges, natural river bank features and debris all creating temporary weirs.
3	Weir risk assessment	3.1	Identify the key features that can make a hydraulic/weir dangerous, and their impact on both victim and rescuer.	Towback, depth of hydraulic, height of drop, face height and angle, floating debris, uniformity, sides of hydraulic, orientation of hydraulic to flow, downstream hazards, composition of river bed.
		3.2	Perform a Rescue 3 weir risk assessment.	Complete Rescue 3 weir risk assessment.
		3.3	Relate the Rescue 3 weir risk assessment to rescue options.	Conditional and true rescue techniques based on weir risk assessment.

WR



	Skill sheet element		Learning outcome	Key teaching points
4	Helicopter familiarisation	4.1	Identify hazards and control measures associated with helicopters.	Noise, downwash, communication difficulties, landing area, overhead power lines, trees etc.
5	Weir rescue case studies	5.1	Compare different case studies on actual weir rescues, and their success or failure and the reasons why.	Eg Doncaster weir rescue, Iowa crane rescue from weir, other local examples.
6	Boat on a highline theory	6.1	Identify the limitations of a boat on a highline.	Complexity of system, time to set up, equipment needed.
		6.2	Compare boat on a highline reeving options and variables that would affect their application.	English reeve, Norwegian reeve.
		6.3	Considerations for setting up a traditional boat on a highline (upstream of weir highline) and a reversed boat on a highline (downstream of weir highline).	Traditional highline above weir, boat launched downstream of boil line, belayed track lines to prevent boat from being pulled across boil line into weir. Reversed highline below weir, boat launched downstream of boil line but upstream of highline, controlled approach to boil line using highline, and upstream tracklines, use of mechanical advantage of highline system to pull boat back out if boat accidentally crosses boil line.



	Skill sheet element		Learning outcome	Key teaching points
7	Foundation skills	7.1	Perform SRT/WRT level personal skills in river environment.	Swiftwater swimming techniques, shallow water techniques, throw bag techniques.
		7.2	Be able to identify, tie and check appropriate knots, anchors and mechanical advantage systems for use in a weir rescue scenario.	Overhand. Figure of 8. Alpine butterfly. No knot. Italian hitch. Clove hitch. Double fisherman's. Appropriate dressing of knot. Single point, load- sharing. Load-distributing anchors, Use of open and closed slings. Basket hitch. Wrap three pull two. Simple internal 3:1 and 5:1 and compound internal 9:1 systems that can be reset and have progress capture. External system, eg 3:1 or 4:1. Correct and safe use by personnel. Line failure considerations whilst under tension.
8	Weir rescues - conditional	8.1	Identify conditional rescue options for use in weirs and the limitations of conditional rescues.	Talk. Reach. Throw. Victim participation required.
		8.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach - pole, paddle, throwbag. Throw - buoyant object, eg life ring.
		8.3	Identify appropriate sites near weirs where conditional rescues can be performed.	Weir features, weir access issues, fences etc, downstream backup, upstream spotter, in-water physical hazards.
		8.4	Perform a variety of conditional rescues.	Talk rescues. Reach rescues-reach pole, throwbags.
		8.5	Identify methods of managing force directed on rescuer and victim during a reach rescue in weirs.	Importance of rope management, dangers if too much line is fed into weir, entanglement issues, site choice, appropriate angle to recover victim taking into account any weaknesses in tow back or flush points.



	Skill sheet element		Learning outcome	Key teaching points
9	Weir rescues - true	9.1	Identify the hazards and control measures associated with a tethered swim in a weir.	In-weir debris, bank/weir access, rope management, casualty behaviour, use of buoyant aids, team backup.
		9.2	Identify how weir hydrology and distance will affect timing of a tethered swim.	Site choice, timing of water entry, belayer forces, weir hydrology, strength of towback.
		9.3	Demonstrate a true rescue using a tethered swim in an appropriate safe hydraulic feature.	In-water casualty. Demonstrate swim to casualty in hydraulic. Importance of timing. Demonstrate different water entry - flat water entry, short swim, with close recovery eddy. True rescue back up.
		9.4	Demonstrate correct rope management when performing a tethered rescue in or near a weir.	Rope management for rescuer - short coils in-hand. Rope management for belayer - allow for rescuer's dynamic water entry, prevent drag whilst swimming, prevent entanglement with rescuer if in the hydraulic, recovery into designated eddy.
		9.5	Perform a supervised swim in a safe hydraulic.	Use of tethers safe easily managed hydraulic, true rescue back up, appropriate hand signals for rescue, rope management and entanglement issues.



	Skill sheet element		Learning outcome	Key teaching points
10	Tethered boat techniques	10.1	Compare the application and limitations of single-, 2- and 4-point tethered systems in a weir environment.	Single point tether. Single point tether with ladder. 2- and 4-point boat techniques.
		10.2	Relate river flow and limitations of hand controlled tethers for boats near weirs and catastrophic failure consequences to anchor selection and belay methods for tethered boats.	River volume, strength and distance of towback, water speed, bank access and terrain, upstream and downstream hazards, multiple anchor points on boat, site choice, enter boat downstream of tow back, do not pass the boil line, appropriate belay techniques, use of Italian hitch or mechanical belay device to control force on downstream lines to prevent boat being pulled upstream into tow back, boat type.
		10.3	Demonstrate use of reach tools from boat.	Do not pass boil line, considerations for separate tethers for rescuers in boat.
		10.4	Use a tethered boat for transportation and mid-stream access.	Set up 4-point boat system.
		10.5	Demonstrate appropriate use and application of friction-based and mechanical belay devices.	Italian hitch. Mechanical belay devices. Personnel belay on steep banks, use in tethered boat operations. Reeve, pay out, take in, tie off.
11	Boat on a highline	11.1	Build and operate a boat on a highline in a weir environment.	Build boat on a highline including a slipping clutch eg Prusik or untied off I'D. Choice of reeving options.
		11.2	Compare the application and limitations of traditional highline versus reverse or downstream highline in relation to chosen weir and river site.	Location of appropriate anchors both upstream and downstream, ease of access to weir, height of drop (does it interfere with track or highlines) length of towback.
12	Scenarios	12.1	Complete a weir rescue scenario.	Eg conditional and true rescue techniques, tethered boat or boat on a highline scenarios, single and double bank access.



	Skill sheet element		Learning outcome	Key teaching points
13	Inflated fire hose (if used by agency)	13.1	Identify agency use or non-use of inflated fire hose.	Agency policy. Agency standard operating guidelines. Access to appropriate inflation equipment.
		13.2	Identify the hazards and control measures of working with compressed air.	Safety valves, pressure indication, thermal protection, explosion protection, air inlet/outlet monitoring, transport and storage considerations.
		13.3	Inflate and deflate a section of hose, if used by agency.	Knowledge of inflation equipment used, safe use of compressed air system.
		13.4	Perform conditional rescues with a fire hose in a weir if used by agency.	Reach rescue using fire hose as a team.
		13.5	Identify inflated fire hose rescue options.	Reach rescue in weir hydraulic. Lowering tethered hose from sides of weir/river and moving downstream.



Lifejackets for Emergency Services (LJES)

Course overview and target audience

The Lifejackets for Emergency Services (LJES) course is designed for emergency service personnel who are issued with a lifejacket and who are expected to work near water and floods as part of their job function. They will only be expected to work within the cold zone (minimum 3 metres away from the water's edge). This course also covers all elements of a Water and Flood Awareness (AW) (Defra Mod 1 course).

It is not intended that these personnel will enter the water as part of their deployment, and a manual- or auto-inflation lifejacket is issued as PPE for accidental water entry only, though the course will cover this possibility practically to ensure personnel are prepared for the event if it does happen. It includes a basic conditional rescue capability of their colleagues.

Personnel who need a more comprehensive course, including working in the warm zone can take the Rescue 3 Europe Swiftwater and Flood First Responder (SFR) course (Defra Mod 2)

Contact hours 6 hours (1 day)	Prerequisites None
Qualification valid for 3 years	Accredited by Rescue 3 Europe

LJES

Taught by

- Swiftwater and Flood First Responder Instructor (SFRI)
- Swiftwater and Flood Rescue Technician Instructor (SRTI) and above

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Pre- and post-use lifejacket checks
- Swimming and self-rescue in a lifejacket



Lifejackets for Emergency Services(LJES) skill sheet contents

Theory	
1.	1. About Rescue 3 Europe
2.	2. Rescue 3 philosophy
3.	3. Training standards
4.	4. Best practice guidelines for water rescue
5.	5. Hydrology and water hazards
6.	6. Floodwater dynamics and hazards
7.	7. Flood theory
8.	8. Mud, ice and unstable surface considerations
9.	9. Communications
10.	10. Pre-planning
11.	11. Risk assessments
12.	12. Incident size-up considerations
13.	13. Incident management and site control
14.	14. Cold water considerations
15.	15. Medical and decontamination considerations
16.	16. Accidental immersion considerations
17.	17. Lifejacket and PPE selection
18.	18. Lifejacket maintenance, periodic inspection and transportation
19.	19. Lifejacket firing mechanisms
20.	20. Lifejacket accidental inflation risks
Practical	
21.	21. Pre- and post-use lifejacket checks
22.	22. Lifejacket inflation and deflation - auto/manual
23.	23. Swimming and self-rescue in lifejackets
24.	24. Throwbags and other conditional rescues
25.	25. Exiting the water



Lifejackets for Emergency Services (LJES) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	About Rescue 3 Europe	1.1	Recognise the role of Rescue 3 Europe as an accrediting body.	Rescue 3 as an accrediting body. Designing safety and rescue courses – not just ‘rescue’.
		1.2	Recognise the different industry training courses available within the Rescue 3 scheme.	Courses for emergency services, whitewater professionals, construction workers, environment agency personnel, production crews etc.
2	Rescue 3 philosophy	2.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		2.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
3	Training standards	3.1	Recognise the different training courses within the Rescue 3 scheme.	Hazard identification, risk assessment, method statement, rescue plan, permit to work, dynamic risk assessment, site/team briefing, operations, evaluation.
		3.2	Recall the remit and role of people trained to LJES level.	The Lifejackets for Emergency Services (LJES) course is designed for emergency service personnel who are issued with a lifejacket and who are expected to work near water and floods as part of their job function. They will only be expected to work within the warm or cold zone. They have a basic conditional rescue capability of their colleagues. Recertification requirements.
		3.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local standards.
		3.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.
4	Best practice guidelines for water rescue	4.1	Explain how the Best Practice Guidelines for Water Rescue combine to produce safer working practice.	Best Practice Guidelines for Water Rescue (formerly known as the 15 Absolutes).



	Skill sheet element		Learning outcome	Key teaching points
5	Hydrology and water hazards	5.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving - flowing down gradient, eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. Swiftwater - fast moving, steeper gradient, eg steep rivers, drainage channels, flash flood conditions. Whitewater - fast moving, steeper gradient, used for kayaking, rafting.
		5.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increase in energy. Gradient - increase in speed. Obstacles - creation of retentive water features, impact risk, siphon/strainer risk.
		5.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		5.4	Describe the impact water features would have on individuals in water.	Force of water, river grading system, entrapments.
		5.5	Identify general water hazards, and suitable control measures.	Depth, temperature, weather.
		5.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapments, canals/canal locks, debris.
		5.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments.



	Skill sheet element		Learning outcome	Key teaching points
6	Floodwater dynamics and hazards	6.1	Identify the physical impact of water flowing within an urban area.	Speed of water, flash flood, expansion, recovery, urban and roadside furniture including manhole covers, erosion, subsidence, storm drains.
		6.2	Identify contributing factors to physical, chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		6.3	Explain the effect of physical, chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, medical and decontamination.
7	Flood theory	7.1	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery.
		7.2	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
		7.3	State what tasks an individual trained to this level would carry out during the phases of a flooding event.	LJES remit and role in flood events.
8	Mud, ice and unstable surface considerations	8.1	Recall hazards associated with mud, ice and unstable surfaces, and suitable control measures.	Entrapment, contamination, specialised rescue equipment, ice quality/strength/thickness, temperature, access issues.
		8.2	Identify equipment and techniques used within swiftwater rescue that would have application within mud, ice and unstable surface rescues.	PPE, boats, sleds and inflatable platforms, reach tools including throwbags.
9	Communications	9.1	Recognise hand signals that can be used in a water environment.	OK, help, stop, direction, medical assistance.
		9.2	Recognise whistle signals that can be used in a water environment.	Stop, upstream, downstream, emergency.
		9.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.



	Skill sheet element		Learning outcome	Key teaching points
10	Pre-planning	10.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		10.2	Identify sources of information useful for generic and task-/ location-specific pre- planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		10.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.
11	Risk assessments	11.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		11.2	Identify the elements of an effective dynamic risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings.
		11.3	Perform a dynamic risk assessment of a rescue site.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, implement your findings.
12	Incident size-up considerations	12.1	Recognise use of size-up models.	CHALET and METHANE.
		12.2	Explain the phases of a successful rescue of a co-worker.	Locate. Access. Stabilise. Transport.
		12.3	List rescue options.	Talk, reach, throw, go, tow, helo. Not a hierarchy of risk.
		12.4	Explain the difference between true and conditional rescues.	Ability of victim to participate.
13	Incident management and site control	13.1	Based on hazard recognition, apply appropriate control measures, including site zoning.	Site zoning, chain of command, team roles.
		13.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.
		13.3	Recall different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.



	Skill sheet element		Learning outcome	Key teaching points
14	Cold water considerations	14.1	Recall signs and symptoms of cold water shock.	Cold water shock. Reduced capability.
		14.2	Recall coping strategies when faced with accidental immersion in cold water.	1-10-1 rule.
15	Medical and decontamination considerations	15.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia (too cold), hyperthermia (too hot), drowning, infection (eg leptospirosis, hepatitis), trauma eg bank hazards (slips, trips, falls), cold water shock.
		15.2	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Check, clean, dry. Hand wipes, face wipes, cover cuts etc.
		15.3	Identify bank hazards and suitable control measures to prevent slips trips and falls.	Wet, steep, slippery, muddy banks, overhanging branches, vegetation. Control measures: zoning, PPE and training.
16	Accidental immersion considerations	16.1	Identify hazards and control measures of accidental immersion in water.	The LJES course is not designed for personnel who are deployed to work in the hot zone of a water or flood incident. However, if they do find themselves in water, they should understand about the effect of temperature, cold water shock.
		16.2	Recognise the importance of keeping feet up if swept away.	The LJES course is not designed for personnel who are deployed to work in the hot zone of a water or flood incident. However, if they do find themselves in water, they should understand about entrapment possibilities.
		16.3	Recall defensive swimming position and swimming techniques to attain safe eddy or bank.	The LJES course is not designed for personnel who are deployed to work in the hot zone of a water or flood incident. However, if they do find themselves in water, they should understand the defensive swimming position and simple safe swimming techniques enabling them to get to shore.



	Skill sheet element		Learning outcome	Key teaching points
17	Lifejacket and PPE selection	17.1	Identify differences between lifejackets and buoyancy aids and appropriate environments for their use.	Explain difference between lifejacket and buoyancy aid, different levels of buoyancy in lifejackets depending on work task and environment, eg 150N or 275N. Impact protection. Don't have manual inflation lifejacket if lone working.
		17.2	Identify national and international lifejacket standards.	Applicable standards, eg ISO 12402.
		17.3	Identify other appropriate PPE for use when working near water.	Appropriate clothing and footwear - thermal properties, capability in water. Weight of equipment carried Considerations for waders, drysuit, wetsuit. Risks posed by combination of lifejacket and a helmet due to chin straps post inflation.
18	Lifejacket maintenance, periodic inspection and transportation	18.1	Recall manufacturer's recommendations for maintenance and inspection of life jackets.	Manufacturer's recommendations for periodic inspection/servicing – eg returning to service centre/manufacturer. Manufacturer's maintenance guidelines for chosen lifejacket.
		18.2	Recall agency or organisation's recommendations for maintenance and inspection of life jackets where different from manufacturer's.	Identifying where your organisation's recommendations may be stricter than manufacturer's requirements.
		18.3	Compare the resilience to sharps of inflatable lifejackets vs closed cell life jackets or buoyancy aids.	Inflatable lifejackets vs closed-cell foam.
		18.4	Recall correct procedures for storage, transportation, and use of lifejackets to protect from sharps and contamination.	Transportation and storage considerations, including protection from sharps.



	Skill sheet element		Learning outcome	Key teaching points
19	Lifejacket firing mechanisms	19.1	Identify types of firing mechanism, their merits and limitations.	Different types, eg Halkey-Roberts, United Moulders (UML Mark 5), Hammar. Expiry dates. Automatic firing cartridge, firing block, gas cylinder.
		19.2	Identify types of firing mechanism, their merits and limitations.	Different types, eg Halkey-Roberts, United Moulders (UML Mark 5), Hammar. Expiry dates. Automatic firing cartridge, firing block, gas cylinder.
20	Lifejacket accidental inflation risks	20.1	Identify hazards associated with accidental deployment in a variety of high risk areas and tasks and suitable control measures.	Wearing of lifejacket in correct environment. Don't wear below deck of boats. Don't wear in confined spaces. Don't wear in cabs/vehicles/ aircraft.
		20.2	Identify the hazards and merits of auto vs manual inflation in a variety of high risk areas and tasks.	Don't wear auto-inflating lifejackets under clothing or under bags (eg rucksacks).
21	Pre- and post-use lifejacket checks	21.1	Demonstrate appropriate pre-use checks for the selected lifejacket.	Pre-use: Correct fitting of selected lifejacket. Safety checks. Check automatic capsule. CO2 cylinder seals. Corrosion. Air holding properties. Firing head test without CO2 cylinder and automatic capsule in place. Check oral inflation cap.
		21.2	Demonstrate appropriate post-use checks for the selected lifejacket.	Post-use: General condition. Abrasion. Punctures. Corrosion.
22	Lifejacket inflation and deflation - auto/manual	22.1	Identify the hazards and merits of auto vs manual inflation.	Differences between auto and manual. Manual: Worker deployment required. Unsuitable for lone workers. Will not inflate if worker is unconscious. Auto: Speed of deployment. Risk of accidental deployment.
		22.2	Observe the auto-inflation of a lifejacket, and identify the associated hazards.	Observation of auto-inflation of lifejacket.
		22.3	Demonstrate manual inflation of a lifejacket.	Performing manual inflation of a lifejacket.



	Skill sheet element		Learning outcome	Key teaching points
23	Swimming and self-rescue in lifejackets	23.1	Demonstrate the defensive swimming position in a lifejacket.	Importance of defensive swimming position. Difficulties of swimming in a lifejacket.
		23.2	Demonstrate setting correct angles in the current to defensively swim to the bank.	Practical session includes setting of correct body angle in defensive position, and swimming to the side, eg of lake, slow-moving water.
24	Throwbags and other conditional rescues	24.1	Identify conditional rescue options and the limitations of conditional rescues.	Conditional rescues rely on participation of the person in the water.
		24.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Use of a reach pole or other reaching tools, eg paddle/branches etc. Use of throwbags, deployment.
			Identify appropriate sites where conditional rescues can be performed.	Position for throw (safety of thrower, place to bring worker into safe area and onto dry land, avoiding trees and other overhead objects).
		24.3	Demonstrate the correct method for receiving a throwbag following accidental immersion.	Practical session in flat or slow moving grade 1 water.
		24.4	Perform a variety of conditional rescues.	Practical session in flat or slow moving grade 1 water. Conditional rescues rely on participation of the person in the water. This session should include talking or encouraging the victim to swim to shore. Use of a reach pole or other reaching tools, eg paddle/branches etc. Use of throwbags, deployment. Type of throw (overhand, underhand).
25	Exiting the water	25.1	Identify hazards that affect a swimmer trying to exit a river.	Difficulties to self-rescue when wearing a lifejacket. Where to get out – steepness of bank, and river bank strainers, depth and flow rate of river etc. Slips, trips and falls. Sharp objects near river bank.
		25.2	Demonstrate safe exit from river at an appropriate site.	Practical session exiting flat or slow-moving grade 1 water.



Swiftwater and Flood Operations for Search and Rescue Helicopter Personnel (SAR HELO)

Course overview and target audience

This course looks at swiftwater and flood operations for search and rescue helicopter personnel.

Contact hours 18 hours (3 days)	Prerequisites Must be a confident swimmer Minimum age: 18.
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Swiftwater and Flood Operations for Search and Rescue Helicopter Personnel Instructor (SAR HELOI)

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming techniques
- Shallow water techniques
- Throwbags



Swiftwater and Flood Operations for Search and Rescue Helicopter Personnel (SAR HELO) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards
3. Best practice guidelines for water rescue
4. Hydrology and water hazards
5. Floodwater dynamics and hazards
6. Considerations for weir rescues
7. Flood theory
8. Coastal and tidal impact zone considerations
9. Flash flood considerations
10. Personal equipment
11. Technical and team equipment
12. Pre-planning
13. Risk assessments
14. Incident size-up
15. Incident management and site control
16. Multi-agency flood operations
17. Medical and decontamination considerations
18. Introduction to searching rivers and floods
19. Considerations for rescues from vehicles in water
20. Communications
Practical
21. Swiftwater swimming techniques
22. Conditional rescues - talk, reach, throw
23. Shallow water techniques
24. Strainer swim
25. Night/poor visibility operations
26. People and equipment entrapments
27. True rescues - tethered
28. In-water release using quick release from winch line (if used by agency)



Swiftwater and Flood Operations for Search and Rescue Helicopter Personnel (SAR HELO) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities at a water rescue scene.	Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Industry-level courses. Water rescue courses. Boat rescue courses. Rope rescue courses. Confined space rescue courses.
		2.2	Recall the remit and role of an individual trained to this level.	Swiftwater and Flood Operations for Search and Rescue Helicopter Personnel (SAR HELO) remit and role. Helicopter personnel who may be tasked with attending a swiftwater or flood incident.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines.	Agency policy and agency standard operating guidelines.
3	Best practice guidelines for water rescue	3.1	Apply the Best Practice Guidelines for Water Rescue combine to produce safer working practice.	Best Practice Guidelines for Water Rescue (formerly known as 15 Absolutes).



	Skill sheet element		Learning outcome	Key teaching points
4	Hydrology and water hazards	4.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving - flowing down gradient, eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. Swiftwater - fast moving, steeper gradient, eg steep rivers, drainage channels, flash flood conditions. Whitewater - fast moving, steeper gradient, used for kayaking, rafting.
		4.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increase in energy. Gradient - increase in speed. Obstacles - creation of retentive water features, impact risk, siphon/strainer risk.
		4.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		4.4	Describe the impact water features would have on individuals in water.	Force of water, river grading system, entrapments.
		4.5	Identify general water hazards, and suitable control measures.	Depth, temperature, weather.
		4.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapments, canals/canal locks, debris.
		4.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments.



	Skill sheet element		Learning outcome	Key teaching points
5	Floodwater dynamics and hazards	5.1	Identify the physical impact of water flowing within an urban area.	Speed of water, flash flood, expansion, recovery, urban and roadside furniture including manhole covers, erosion, subsidence, storm drains.
		5.2	Identify contributing factors to physical, chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		5.3	Explain the effect of physical, chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, medical and decontamination.
6	Considerations for weir rescues	6.1	Identify the hazards and control measures for both victim and rescuer in a hydraulic/weir.	Retentive nature, in-water debris, entrapment risks.
		6.2	Identify weir rescue options.	Conditional reach techniques - throwbags, inflated fire hose, reach pole, tethered buoyant object. Helicopter.
7	Flood theory	7.1	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery.
		7.2	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
		7.3	State what tasks an individual trained to this level would carry out during the phases of a flooding event.	SAR HELO remit and role in flood events.
8	Coastal and tidal impact zone considerations	8.1	Identify hazards in a coastal water environment.	Waves, tides, currents, rip currents, sandbars/gullies, rocks/cliffs, pollution, dangerous marine life (depending on area of operation).
		8.2	Recall the definition of a tidal impact zone.	Where land meets the sea, and where tide/waves may cause people in the water to impact with cliffs, rocks etc.
		8.3	Recall control measures for safe operations in coastal water environments and tidal impact zones.	Hazard identification and avoidance. PPE. Training (eg with coasteering instructors).



	Skill sheet element		Learning outcome	Key teaching points
9	Flash flood considerations	9.1	Identify sites that may be subject to flash flooding.	Canyons/gorges, downstream of man-made and natural dams, combination of topography and rainfall.
		9.2	Recall how catchment areas affect flash flooding.	Saturated or baked ground, area, contours, ground porosity, and their effect on sites subject to flash flooding.
		9.3	Identify warning signs of flash flooding.	Water level, debris, water colour, smell, and sound.
		9.4	Recall actions in the event of a flash flood.	Seek high ground rather than trying to outrun the flash flood. Wait for the flood to subside. If swept away, follow swiftwater swimming and self-rescue techniques (eg defensive swimming).
10	Personal equipment	10.1	Identify personal protective equipment (PPE) for operating and performing rescues in water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waist belts, cowstails, lighting, eye protection.
		10.2	Select appropriate PPE for operating and performing rescues in water, perform pre-use checks, donning and buddy checks.	CE standards, PPE inspection, buddy checks.
		10.3	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, drying, storage and care.
11	Technical and team equipment	11.1	Identify technical and team equipment for operating in and performing rescues in water.	Karabiners, slings, throwbags, wading poles, reach pole, first aid kits, basket stretcher.
		11.2	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection, drying, storage, transportation.



	Skill sheet element		Learning outcome	Key teaching points
12	Pre-planning	12.1	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		12.2	Identify sources of information useful for generic and task-/location-specific pre-planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		12.3	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access and egress to site, topography, response plan.
13	Risk assessments	13.1	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		13.2	Identify the elements of an effective dynamic risk assessment.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by written risk assessment process.
		13.3	Perform a dynamic risk assessment of a rescue site.	Real-time process ensuring actual situational risks are identified, evaluated and managed, that may not be covered by written risk assessment process.
14	Incident size-up	14.1	Demonstrate use of size-up models.	CHALET and METHANE.
		14.2	Explain the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		14.3	Perform an on-site safety brief based on risk assessments.	Highlight relevant hazards that will affect the rescue.
		14.4	List rescue options.	Talk, reach, throw, go, tow, helo. Not a hierarchy of risk.
		14.5	Explain the difference between true and conditional rescues.	Ability of victim to participate.
		14.6	Select an appropriate plan of action for a given incident.	Decision-making models, such as TEMPOE.



	Skill sheet element		Learning outcome	Key teaching points
15	Incident management and site control	15.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders at a rescue scene.	Site zoning, chain of command, team roles.
		15.2	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, moral pressure, bystander safety.
		15.3	Apply different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.
		15.4	Collate relevant information in order to deliver structured messages regarding an incident.	G-SMEAC.
		15.5	Apply a simple structure and centralised command, in order to brief and manage a team.	Designating roles. Apply G-SMEAC. Ensuring two-way communication.
16	Multi-agency flood operations	16.1	Understand the different roles of various teams in a national flood event.	Defra Flood Rescue Concept of Operations and equivalent guidance documents. Different assets available in a national flood event.
17	Medical and decontamination considerations	17.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia, hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		17.2	Identify individuals at risk for common medical issues found in a water environment, and control measures to minimise this.	Victims in and around the water environment - hypothermia, drowning, infection, trauma. Rescuers - hypothermia, hyperthermia, drowning, infection, trauma. Control measures - PPE, training, decontamination, team welfare.
		17.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		17.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Rescue site assessment, appropriate footwear, site zoning, safety briefing.



	Skill sheet element		Learning outcome	Key teaching points
18	Introduction to searching rivers and floods	18.1	Identify appropriate search models.	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors.
		18.2	State what tasks an individual trained to this level would carry out during a river-based primary search.	Reconnaissance including identifying hazards, fast moving between hotspots, identifying locations for secondary search. Reporting.
		18.3	State what tasks an individual trained to this level would carry out during a river-based secondary search.	Searching identified hotspots. Use of specialised assets, eg sub-surface dive team, tethered boats, bathyscopes.
		18.4	State what tasks an individual trained to this level would carry out during a flood-based primary search.	Reconnaissance including identifying hazards, identifying locations for secondary search, house to house shout and listen techniques, quick visual sweeps. Reporting.
		18.5	State what tasks an individual trained to this level would carry out during a flood-based secondary search.	Secondary search low coverage - searching hotspots highlighted in primary search. Secondary search high coverage - full search of buildings, removal of debris from buildings, no further searching will take place after this. Potential for body recovery. Body recovery considerations.
19	Considerations for rescues from vehicles in water	19.1	Identify reasons why vehicles end up in rivers and floodwater, and steps taken to reduce this.	Urgent need to reach destination. Ignoring advice or signs. Over-confidence in vehicle's ability. Unaware of the danger. Suicide attempt. Driving into floodwater.
		19.2	Describe the forces acting on a vehicle when in the water, and how these affect vehicle stability.	Weight of vehicle, stream force, frictional force, buoyancy of vehicle.
		19.3	Explain why and how a vehicle should be stabilised whilst in the water, and factors influencing this decision.	Preventing vehicle movement, glass management, appropriate strops/slides, correct angle of stabilisation line, bombproof anchors, access to single or twin banks.
		19.4	Identify methods of accessing and egressing a vehicle in water.	Boat, sled, platform, tethered boat options, tensioned diagonal, shallow water techniques, swiftwater swimming techniques.
		19.5	Identify factors affecting vehicle stability when extricating victims.	Current flow and water depth, rescuers accessing vehicle, casualties exiting vehicle, depressurisation, effect of anchors on vehicle.



	Skill sheet element		Learning outcome	Key teaching points
20	Communications	20.1	Recognise hand signals that can be used in a water environment.	OK, help, stop, direction, medical assistance.
		20.2	Recognise whistle signals that can be used in a water environment.	Stop, upstream, downstream, emergency.
		20.3	Identify other methods of communication and their limitations.	Radios, mobile telephones, battery life, water resistance, signal strength.
21	Swiftwater swimming techniques	21.1	Demonstrate the defensive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow.
		21.2	Demonstrate the aggressive swimming position.	When and why, body positioning, lateral movement, breaking out of the flow.
		21.3	Transition between the defensive and aggressive swimming positions.	Rolling techniques, entrapment issues, increased risk of impact on in-water features.
		21.4	Adjust body angle relative to the current vector.	Ferry angles, methods of adjusting body angle.
		21.5	Apply swimming techniques, angle control and momentum to perform a variety of tasks.	Defensive swimming, aggressive swimming, transition from defensive to aggressive, ferry gliding, eddy line techniques, slalom course, breathing techniques, river-reading skills. Increasing and decreasing momentum.



	Skill sheet element		Learning outcome	Key teaching points
22	Conditional rescues - talk, reach, throw	22.1	Identify conditional rescue options and the limitations of conditional rescues.	Talk. Reach. Throw. Victim participation required.
		22.2	Identify, check and prepare suitable equipment for performing a conditional rescue.	Talk. Reach - pole, paddle, throwbag. Throw - buoyant object, eg life ring.
		22.3	Identify appropriate sites where conditional rescues can be performed.	River features, appropriate eddies, downstream backup, upstream spotter, in-water physical hazards.
		22.4	Demonstrate the correct method for receiving a throwbag.	Stay on back, make target/body as large as possible, keep line of sight with rescuer, listen to instructions. When being pulled in, don't wrap rope around body, rope over shoulder, stay on back when being recovered. Don't let go of rope until safely on bank.
		22.5	Perform a variety of conditional rescues.	Talk rescues. Reach rescue - reach pole, throwbag.
		22.6	Identify methods of managing force directed on rescuer and victim during a reach rescue as water speed increases.	Rescuer/belayer moving downstream, paying out of line, appropriate site choice, appropriate eddies for recovery.
23	Shallow water techniques	23.1	Identify the variables and hazards that will directly affect shallow water techniques.	Water speed, depth, channel bed morphology, personnel, equipment.
		23.2	Perform single and team-based shallow water techniques in a moving water environment.	Individual, line astern, line abreast, wedge, use of wading pole.
		23.3	Explain the application of tethered shallow water techniques in a moving water environment.	Single and group tethered techniques.
		23.4	Explain how the addition of a casualty would affect shallow water techniques.	Appropriate team-based techniques, appropriate stretcher/transport method, protection of casualty from flow, downstream hazards.



	Skill sheet element		Learning outcome	Key teaching points
24	Strainer swim	24.1	Identify strainers and the hazards they pose to rescuers and casualties in the water.	Entrapment, injury.
		24.2	Understand that strainers should be avoided.	Strainers should be avoided.
		24.3	Understand the consequences of going underneath a strainer.	Subsurface hazards are unknown: blockages and entrapments are highly likely.
		24.4	Identify rescue options for a casualty in a strainer.	Considerations based on training of rescuers. Eg team wade, tethered boat (SFR and above), team wade, tethered boat, V-lower (SRT and above).
		24.5	Using a strainer simulator, demonstrate and compare aggressive and defensive approaches to the simulator.	Defensive: can fend off with feet and work along to the end. More potential to be swept underneath the strainer, but greater protection from impacts. Protection of face on impact with the strainer. Aggressive: speed of approach and timing. More likely to get up and over the strainer, but also more open to injury.
25	Night/poor visibility operations	25.1	Identify hazards associated with night/poor visibility operations, and suitable control measures.	Hazards: visibility and communication difficulties, affecting timescales, tracking of equipment and personnel. Control measures: Lighting, increased use of audible communication.
		25.2	Identify types of lighting used within night operations.	Snap lights, personal lights, scene lights, night vision goggles.
		25.3	Perform a risk assessment and operate at night/in poor visibility.	Perform appropriate site choice for swim session and rescue scenario- eg compare with daytime, or use easier venue. Appropriate lighting for all personnel and equipment.



	Skill sheet element		Learning outcome	Key teaching points
26	People and equipment entrapments	26.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood.	River bed morphology, snag hazards, submersion, trauma. Defensive swimming position. Training.
		26.2	Identify extrication methods of an entrapped casualty.	Hands-on methods, wading, single bank access, twin bank access.
		26.3	Identify risks to the rescuers of an entrapped casualty.	Access difficulties, river bed morphology, snag hazards, river depth, upstream vs. downstream access, access to both banks, hands-on techniques, wading vs access from bank, timescales involved in performing a rescue.
		26.4	On dry land, demonstrate use of stabilisation line from one and two banks.	Single and twin bank entrapment techniques.
		26.5	Compare the merits and hazards of using hands-on techniques, when approaching from upstream and downstream.	Speed of access, lack of need for rope management, ability to create an eddy. Hazards - entrapment risk, number of rescuers needed in hot zone.
27	True rescues - tethered	27.1	Identify the hazards and control measures associated with a tethered swim in a moving water environment.	In-water debris, bank access, rope management, casualty behaviour, use of buoyant aids, team backup.
		27.2	Set-up and demonstrate an in-water emergency release using the quick release harness on a buoyancy aid.	Attach a floating line to quick release harness. Demonstrate in-water release.
		27.3	Identify how water speed and distance will affect timing of a tethered swim.	Site choice, timing of water entry, belayer forces, water speed.
		27.4	Demonstrate a true rescue using a tethered swim.	In-water casualty. Demonstrate long swim to casualty in low grade water. Wade then swim. Demonstrate different water entry - flat water entry, short swim, with close recovery eddy.
		27.5	Demonstrate correct rope management when performing a tethered rescue.	Rope management for rescuer - short coils in-hand. Rope management for belayer - allow for rescuer's dynamic water entry, prevent drag whilst swimming, prevent entanglement with rescuer, recovery into designated eddy.



	Skill sheet element		Learning outcome	Key teaching points
28	In-water release using quick release from winch line (if used by agency)	28.1	Set up and demonstrate an in-water emergency release using a quick release from a winch line.	Demonstrate an in-water release using quick release from winch line (eg Quick Release Box).



Introduction to Water Rescue for Training Managers (IWRTM)

Course overview and target audience

The Introduction to Water Rescue for Training Managers gives organisations and training managers an overview of Rescue 3 training courses, the remit and role of rescuers trained to different levels, and a broad understanding of ways to manage and mitigate risk in hazardous environments. The course is a mix of classroom lectures and observation of practical demonstration of elements from SFR and SRT courses.

Contact hours 3.5 hours (0.5 days)	Prerequisites None
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Swiftwater and Flood Rescue Technician Instructor

Assessment

The assessed elements of this course are:

- Understanding of rescue teams' capabilities



Introduction to Water Rescue for Training Managers (IWRTM)
skill sheet contents

Theory
1. About Rescue 3
2. Training standards
3. Hydrology and water hazards
4. Flooding considerations
5. Personal and team equipment considerations
6. Introduction to water incident management
7. Introduction to searching rivers and floods
8. Medical and decontamination considerations
9. Observation of in-water practical elements



Introduction to Water Rescue for Training Managers (IWRTM)

learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	About Rescue 3	1.1	Recognise the role of Rescue 3 Europe as an accrediting body.	Introduction to who Rescue 3 is, their history and global reach. The role of Rescue 3 as an accrediting body, and the relationship to training providers, instructors and students. The value of externally accredited courses. Information about student and instructor resources and skill sheets available in multiple languages.
2	Training standards	2.1	Recognise the different training courses available within the Rescue 3 scheme.	Courses for emergency services - Awareness, First Responder, Technician, Advanced Technician, Manager and Instructor. Specialised courses, eg powerboat, vehicle rescue, animal rescue. Courses in other disciplines (rope, confined space, ice etc).
		2.2	Recall the remit and role of people trained to IWRTM level.	The Introduction to Water Rescue for Training Managers gives organisations and training managers an overview of Rescue 3 training courses, the remit and role of rescuers trained to different levels, and a broad understanding of ways to manage and mitigate risk in hazardous environments.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, Defra, NFPA, applicable local and international standards.
		2.4	State how the Rescue 3 scheme fits within agency policy and standard operating guidelines.	Agency policy and standard operating guidelines.



	Skill sheet element		Learning outcome	Key teaching points
3	Hydrology and water hazards	3.1	Recall the definitions of basic water, moving water, coastal water, swiftwater and whitewater.	Basic water - typically still, flat water, eg lakes, ponds, canals. Moving any body of water that flows downstream eg streams, rivers, drainage channels. Coastal water - eg coastal sea, ocean, estuaries. (Coastal estuaries will flow in different directions, depending on the state of the tide). Swiftwater - fast moving water, often with a steep gradient, eg steep rivers, drainage channels, flash flood channels. Whitewater - fast moving water, steep gradient rivers. A term generally used by kayakers, rafters and other outdoor professionals.
		3.2	Identify the effect that volume, gradient and obstacles have on water.	Volume - increases the energy of the water. Gradient - increases the speed of the water. Obstacles - creates a number of water features that may be retentive. Obstacles may create an impact and/or entrapment risk.
		3.3	Identify water features.	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs.
		3.4	Describe the impact water features would have on individuals in water.	Eg weirs and stoppers/holes can retain an individual within the feature. Trees and roadside furniture can create strainers to entrap swimmers. Grade and type of river (eg shallow, deep, rocky), and the likelihood to cause harm.
		3.5	Identify general water hazards, and suitable control measures.	Weather (summer, winter). Air temperature, water temperature and its effect on rescuers and casualties. Depth - ability to wade?
		3.6	Identify water hazards in a basic water environment, and suitable control measures.	Lake/canal bed morphology, entrapment risks (eg artificial and natural debris, such as shopping trolleys and tree roots), canals/canal locks, and how they may affect casualties and rescuers.
		3.7	Identify water hazards in a moving water environment, and suitable control measures.	Volume, gradient, undercuts, strainers, siphons, hydraulics, weirs, inspection covers, bridge pillars, entrapments, and how and when they may affect casualties and rescuers.



	Skill sheet element		Learning outcome	Key teaching points
4	Flooding considerations	4.1	Identify the effect of floodwater flowing within an urban area.	Flash flood phase, expansion phase, recovery phase. Speed of water through restrictions. Creation of retentive water features. Entrapment risks, such as urban and roadside furniture. Conditions leading to the lifting of inspection covers, also creating entrapment risks. Erosion and subsidence of features, eg access roads and riverbanks.
		4.2	Identify industrial chemical and biological hazards within flooding.	Electricity, gas, LPG and oil tanks, sewage, household waste, industrial chemicals, pesticides, fertilisers, slurry pits, septic tanks, dead animals.
		4.3	Identify control measures linked to chemical and biological hazards on personnel in floodwater.	Appropriate PPE, training, avoidance, and decontamination.
		4.4	Identify the six phases of a flood, and the associated hazards (previously four phases).	Pre-flood. Flood warning. Initial inundation. Lateral expansion. Initial recovery. Long-term recovery. Eg speed of water, pollution levels, debris.
		4.5	Identify how flood warnings will correspond with phases of flooding.	European Flood Awareness System (EFAS), national flood information.
5	Personal and team equipment considerations	5.1	Identify personal protective equipment (PPE) for operating and performing rescues in water.	Helmet, buoyancy aid, lifejacket, drysuit, wetsuit, footwear, insulation, knives, throwbags, gloves, waistbelts, cowstails, lighting, eye protection, first aid kits, swim fins.
		5.2	Identify technical and team equipment for operating in and performing rescues in water.	Karabiners, slings, tapes, throwbags, canyon lines, wading poles, reach pole, basket stretcher.
		5.3	Recall post-use care and inspection procedures for personal and team equipment.	Equipment inspection and recording, drying, storage, transportation.



	Skill sheet element		Learning outcome	Key teaching points
6	Introduction to water incident management	6.1	Recall the four components of a generic pre-plan.	Management, personnel, training, equipment.
		6.2	Identify sources of information useful for generic and task-/location-specific pre-planning.	River level information, weather forecasts, dam releases, river guidebooks, mapping, emergency services, location of rescue and first aid equipment, post-rescue documentation.
		6.3	Recall key information that should be included within a pre-plan.	Accident hotspots in county. Risk assessments (generic and site-specific) Access and egress to rivers at typical levels and in flood events. Topography. Response plan.
		6.4	Identify the elements of an effective generic or site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		6.5	Identify the elements of an effective dynamic risk assessment.	Real time process ensuring actual situational risks are identified, evaluated and managed that may not be covered by written risk assessment process. Constantly re-evaluated.
		6.6	Recall use of size-up models.	Eg CHALET and METHANE.
		6.7	Recall the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		6.8	List rescue options and relate them to team remit.	Talk, reach, throw (SFR and above). Go, tow (SRT and above) Helo. Not a hierarchy of risk.
		6.9	Explain the difference between true and conditional rescues.	Ability of victim to participate.
		6.10	Recall appropriate control measures to protect personnel and bystanders at a rescue scene.	Site zoning, chain of command, team roles.
		6.11	Identify issues and hazards of bystanders beyond the cold zone.	Crowd control, eg onlookers, media and family members of casualty, creating moral pressure, and jeopardising both operations and their own safety.
		6.12	Identify different roles that may be allocated at a water incident.	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters.



	Skill sheet element		Learning outcome	Key teaching points
7	Introduction to searching rivers and floods	7.1	Identify appropriate search models.	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors.
		7.2	State what tasks SRTs would carry out during a river-based primary search.	Reconnaissance including identifying hazards, fast moving between hotspots, identifying locations for secondary search. Reporting.
		7.3	State what tasks SRTs would carry out during a river-based secondary search.	Searching identified hotspots. Use of specialised assets, eg sub-surface dive team, tethered boats, bathyscopes.
		7.4	State what tasks SRTs would carry out during a flood-based primary search.	Reconnaissance including identifying hazards, identifying locations for secondary search, house to house shout and listen techniques, quick visual sweeps. Reporting.
		7.5	State what tasks SRTs would carry out during a flood-based secondary search.	Secondary search low coverage - searching hotspots highlighted in primary search. Secondary search high coverage - full search of buildings, removal of debris from buildings, no further searching will take place after this. Potential for body recovery. Body recovery considerations.



	Skill sheet element		Learning outcome	Key teaching points
8	Medical and decontamination considerations	8.1	Identify signs/symptoms and treatment for common medical issues found in a water environment.	Hypothermia, hyperthermia, drowning, infection eg Leptospirosis and hepatitis, trauma, cold water shock.
		8.2	Identify individuals at risk for common medical issues found in a water environment, and control measures to minimise this.	Victims in and around the water environment - hypothermia, drowning, infection, trauma, strains and sprains. Rescuers - hypothermia, hyperthermia, drowning, infection, trauma, strains and sprains. Control measures - PPE, training, fitness levels of rescuers and pre-existing injuries, decontamination, appropriate warm-up for rescuers before any strenuous physical rescue, team welfare, manual and people handling considerations, eg for stretchers.
		8.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure.	Decontamination including hand wipes, face wipes, decontamination spray.
		8.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls.	Rescue site assessment, appropriate footwear, site zoning, safety briefing.
9	Observation of in-water practical elements	9.1	Observe in-water practical elements, as covered on the Rescue 3 SFR or SRT courses.	Video or practical demonstration of some in-water practical elements, such as swimming, throwbagging, shallow water techniques, conditional rescues and true rescues. Any practical demonstrations must be performed by people with in-date Rescue 3 qualifications that cover the techniques being demonstrated. This may be the instructor themselves.





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