



Safe Operating Near or In Water for SAR Teams

Learning outcomes and key teaching points



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.





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Safe Operating Near Water for SAR Teams (SONWSAR)

Course overview and target audience

The SONWSAR course is designed for Search and Rescue team members (eg Mountain Rescue and Lowland Rescue). It gives them an awareness of the hazards of operating near water, and gives them experiential understanding of how to self-rescue in the event of accidental immersion. This course does not provide an operational response for in-water operations or a professional water rescue capability.

SAR teams who will be undertaking intentional entry into water should take the Safe Operating In Water for SAR Teams course. If they require a professional rescue capability for flooding events, then they should take either the Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician course.

Contact hours 8 hours (1 days)	Prerequisites Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Safe Operating In Water For SAR Teams Instructor

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming for self-rescue



Safe Operating Near Water for SAR Teams (SONWSAR) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards
3. Best practice guidelines
4. Hydrology and water hazards
5. Additional hazards beyond the training scope
6. Personal protective equipment for operating near water
7. Assessing risk
8. Medical and decontamination considerations
9. Communications
10. Strainer considerations
11. Foot/body entrapment considerations
12. Introduction to bank-based search considerations
Practical
13. Swimming techniques for self-rescue
14. Conditional rescues of team members
15. Shallow water techniques for self-rescue



Safe Operating Near Water for SAR Teams

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 incident	Self > team > victim
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme	Water safety and rescue courses, including for emergency services, whitewater professionals, and industry.
		2.2	Recall the remit and role of an individual trained to this level	The SONWSAR course is designed for Search and Rescue team members (eg Mountain Rescue and Lowland Rescue). It gives them an awareness of the hazards of operating near water, and gives them experiential understanding of how to self-rescue in the event of accidental immersion. This course does not provide an operational response for in-water operations or a professional water rescue capability. SAR teams who will be undertaking intentional entry into water should take the Safe Operating In Water for SAR Teams course. If they require a professional rescue capability for flooding events, then they should take either the Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician course.



	Skill sheet element		Learning outcome	Key teaching points
	Training standards (continued)	2.3	Recall the benefits of an externally accredited training course, such as this one	Inform students about widely trusted and independent organisation producing courses based on best practice, with input from international experts in their fields. Externally accredited courses are backed up with course standards and learning outcomes, that ensure students and organisations receive appropriate training for the environments in which they'll be operating, and are able to evidence that training for the protection of all concerned
3	Best practice guidelines	3.1	Apply the Rescue 3 Best Practice Guidelines to produce safer practice in a moving water environment	Best practice guidelines (formerly known as the 15 Absolutes)



	Skill sheet element		Learning outcome	Key teaching points
4	Hydrology and water hazards	4.1	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
		4.2	Identify water features	Laminar flow, helical flow, current vector, eddies, upstream V, downstream V, undercuts, strainers, siphons, standing waves, hydraulics, weirs
		4.3	Describe the impact that water features would have on individuals in water	Force of water, river grading system, entrapments
		4.4	Identify water hazards in a river environment, and suitable control measures	Depth, temperature, weather, volume, gradient, undercuts, strainers, siphons, hydraulics, weirs/low head dams, bridge pillars, entrapments
		4.5	Identify river bank hazards and their control measures.	Slippery ground, steep ground. Appropriate PPE and footwear.
		4.6	Recall the distinction between streams, becks, rivers and their hazards	No official distinction, eg when does a large stream become a small river? Greater force. Steepness. Volume of water. Consequences of a fall (eg downstream hazards). PPE and training considerations.
		4.7	Recall the importance of avoidance (eg find bridge, different section of river, wait for river levels to drop) if encountering a river without suitable PPE.	Pre-planning (eg mapping, weather forecasts) to select appropriate route. Considerations to change route, cross at a bridge, or wait for river levels to drop.



	Skill sheet element		Learning outcome	Key teaching points
5	Additional hazards beyond the training scope	5.1	Recall hazards associated with mud, ice and unstable surfaces, and appropriate training levels.	Entrapment, contamination, specialised equipment, ice quality/strength/thickness, temperature, access issues. Training including Rescue 3 Europe mud and ice awareness and training courses.
		5.2	Recall hazards associated with animals in/around a water environment and and appropriate training levels	Panicked/stressed animals, posing a risk to themselves, rescuers and other bystanders (pet owners, members of the public etc). Importance of no sudden movements or loud noises to avoid further panicking animals. Training, including Rescue 3 Europe animal awareness and animal rescue courses.
		5.3	Recall additional hazards associated with flooding, and appropriate training levels	Flash flood, expansion phase, recovery phase. Speed of water through restrictions. Creation of retentive water features. Entrapment risks. Conditions leading to the lifting of inspection covers. Chemical and biological hazards within flooded areas. Training, including Rescue 3 Europe Water and Flood Awareness, Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician.



	Skill sheet element		Learning outcome	Key teaching points
6	Personal protective equipment for operating near water	6.1	Recall appropriate PPE for operating near water (accidental immersion) and operating in water (intentional entry)	Anyone tasked to operate within 3m of the water's edge must have a PFD (eg buoyancy aid or lifejacket). For students who are issued with lifejackets, supplemental training is available, such as the Rescue 3 Europe Lifejacket Competent User. Intentional entry PPE, such as helmet, buoyancy aid, drysuit, wetsuit, footwear, insulation, knives, throwbags/floating rope, gloves, PFD waist belts, lighting, whistle, eye protection/sunglasses. Within this training course, students are issued with intentional entry PPE, as a layer of safety during their experiential learning about accidental immersion and self-rescue.
		6.2	Recall pre-use checks for PPE	CE standards, PPE inspection, buddy checks
		6.3	Recall post-use care and inspection procedures for PPE	PPE inspection, drying, storage and care
		6.4	Recall issues with unintentional entry into water wearing non-water outdoor clothing and equipment	Increased risk of drowning, impact injuries, hypothermia. Harder to self-rescue. Risks of other equipment (eg rucksacks) leading to entrapment or becoming waterlogged. (Unclip rucksack buckles whilst around water. Remove wrist loops from walking poles, to make it easier to swim by shrugging off rucksack and poles). How to get warm and dry afterwards. Subsequent time in the outdoor environment.



	Skill sheet element		Learning outcome	Key teaching points
7	Assessing risk	7.1	Recall the components of your organisation's written 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	Recall the components of a 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.
		7.3	Perform a dynamic risk assessment of a river environment	Eg dynamic risk assessment of upland/lowland stream/river.
8	Medical and decontamination considerations	8.1	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 and falls), cold water shock.
		8.2	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure	Check, clean, dry. Hand wipes, face wipes, cover cuts etc.
		8.3	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.
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 in a water environment, and their limitations	Radios, mobile telephones, battery life, water resistance, signal strength
10	Strainer considerations	10.1	Understand the importance of avoiding strainers and not going underneath them	Natural and man-made strainers. Entrapment, injury. Force of water



	Skill sheet element		Learning outcome	Key teaching points
11	Foot/body entrapment considerations	11.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood	Physical properties of river bed, snag hazards, submersion, trauma. Defensive swimming position. Specific in-water rescue training (eg SOIWSAR, SFR, SRT).
12	Introduction to bank-based search considerations	12.1	Identify appropriate search models	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors
		12.2	State what tasks an individual trained to this level may carry out during a primary search	Bank-based reconnaissance, including identifying hazards, identifying locations for secondary search, shout and listen techniques, quick visual sweeps. Reporting. Importance of avoiding mission creep in both tasking and operations. Responders trained to this level are not trained in intentional water entry and operations, nor are they trained in flood awareness or operations. Anyone within the warm zone (typically 3m from the water) must have suitable PPE.



	Skill sheet element		Learning outcome	Key teaching points
13	Swimming techniques for self-rescue	13.1	Recall factors that may lead to accidental immersion	Steep banks, slippery surfaces, slips, trips and falls, use of appropriate footwear, site assessment.
		13.2	Recall the importance of being able to shrug off rucksacks and release walking poles from hands if accidentally entering water	Consider undoing rucksack buckles and removing wrist straps from wrists when around water. Difficulty in swimming without in-water PPE and in normal hill kit.
		13.3	Demonstrate the defensive swimming position, as used in self-rescue	Within a moving water environment in full water PPE. Defensive swimming position. When and why. Body positioning. Lateral movement. Breaking out of the flow.
		13.4	Demonstrate the aggressive swimming position, as used in self-rescue	Within a moving water environment in full water PPE. Defensive swimming position. When and why. Body positioning. Lateral movement. Breaking out of the flow.
		13.5	Transition between the defensive and aggressive swimming positions, to facilitate self-rescue	Rolling techniques, entrapment issues, increased risk of impact on in-water features
		13.6	Adjust body angle relative to the current vector	Ferry angles, methods of adjusting body angle



	Skill sheet element		Learning outcome	Key teaching points
14	Conditional rescues of team members	14.1	Identify conditional rescue options and the limitations of conditional rescues	Talk. Reach. Throw. Victim participation required
		14.2	Identify, check and prepare suitable equipment for performing a conditional rescue	Talk. Reach - walking pole, throwbag, branch. Throw - buoyant object. Check suitability of non-water rescue equipment (eg telescopic or sectioned walking poles, which may separate. Possibility of walking pole baskets being pulled off by team member being rescued).
		14.3	Recall actions in the event of a team member falling in the water	Dynamic risk assessment, including river features, appropriate eddies, equipment carried, availability of PPE. Conditional rescue options and availability of trained team members.
		14.4	Identify appropriate sites where conditional rescues can be performed	River features, appropriate eddies, availability of team members with conditional rescue equipment, possibility of deploying downstream backup and upstream spotter, in-water physical hazards
		14.5	Demonstrate the correct method for receiving a throwbag in the event of your 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, rope over shoulder, stay on back when being recovered. Don't let go of rope until safely on bank
		14.6	Perform a reach rescue with a suitable reach tool (eg wading pole, walking pole)	Practical session using in-water PPE. Hazards of branches (eg cuts and lacerations to hands), but may be necessary in extremis. Limitations of walking poles. Talk to get them as close as possible, to assist in the rescue.



	Skill sheet element		Learning outcome	Key teaching points
	Conditional rescues of team members (continued)	14.7	Perform a throwbag rescue.	Practical session using in-water PPE. Underarm throwbag technique. Overarm throwbag technique. Managing force to prevent rescuer being pulled into water. Rescuer/belayer moving downstream, paying out of line, appropriate site choice, appropriate eddies for recovery. Support from other bank-based team members.
15	Shallow water techniques for self-rescue	15.1	Identify hazards that affect a swimmer trying to exit a river	Where to get out - steepness of bank, and river banks strainers, depth and flow rate of river etc. Slips, trips and falls. Sharp objects near river bank. Difficulties to self-rescue if wearing a lifejacket.
		15.2	Recall in-water hazards that affect a team member wading in water	Foot entrapments, such as in-water debris, metal bars, shopping trolleys, undercuts etc. Strainers (natural and manufactured). Bankside furniture, such as fences. Slippery conditions underfoot, eg algae-covered rocks.
		15.3	Demonstrate correct wading technique to use when exiting the water	Correct foot movement to maintain stability: not lifting feet too high, feel for holes or entrapment hazards before placing all weight on foot, ensure facing upstream, wide stance, use of equipment that may have been in hand when falling in (eg walking poles) to assist with stability. Practical session in flat or slow-moving grade 1 water, using in-water PPE.
		15.4	Demonstrate safe exit from river at an appropriate site	Practical session exiting flat or slow-moving grade 1 water. Practical session in flat or slow-moving grade 1 water, using in-water PPE.



Safe Operating In Water for SAR Teams (SOIWSAR)

Course overview and target audience

The SOIWSAR course is designed for Search and Rescue team members (eg Mountain Rescue and Lowland Rescue), who are tasked with intentional water entry, eg for river crossings, conditional rescues, or search in and around the water margins.

SAR teams who require a flood capability should take either the Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician course.

Contact hours 16 hours (2 days)	Prerequisites Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Safe Operating In Water For Mountain and Lowland Teams Instructor

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Swiftwater swimming for self-rescue
- Shallow water techniques
- Throwbags and other conditional rescues



Safe Operating In Water for SAR Teams (SOIWSAR) skill sheet contents

Theory	
1. Rescue 3 philosophy	
2. Training standards	
3. Best practice guidelines	
4. Hydrology and water hazards	
5. Additional hazards beyond the training scope	
6. Personal protective equipment for operating in water	
7. Technical and team equipment	
8. Pre-planning	
9. Risk assessments	
10. Incident size-up	
11. Incident management and site control	
12. Medical and decontamination considerations	
13. Considerations for night/poor visibility operations	
14. Mud, ice and unstable surface considerations	
15. Communications	
Practical	
16. Swiftwater swimming techniques	
17. Strainer swim	
18. Conditional rescues - talk, reach, throw	
19. Shallow water techniques	
20. Casualty management	
21. People and equipment entrapments	
22. Introduction to searching rivers	

SOIWSAR



Safe Operating In Water for SAR Teams

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 (SOIWSAR)	The SOIWSAR course is designed for Search and Rescue team members (eg Mountain Rescue and Lowland Rescue), who are tasked with intentional water entry, eg for river crossings, conditional rescues, or search in and around the water margins. SAR teams who require a flood capability should take either the Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician course.
3	Best practice guidelines for water rescue	3.1	Apply the Best Practice Guidelines for Water Rescue to produce safer operating 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 fences 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	Physical properties of lake/canal bed, 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	Additional hazards beyond the training scope	5.1	Recall hazards associated with mud, ice and unstable surfaces, and appropriate training levels.	Entrapment, contamination, specialised equipment, ice quality/strength/thickness, temperature, access issues. Training including Rescue 3 Europe mud and ice awareness and training courses.
		5.2	Recall hazards associated with animals in/around a water environment and appropriate training levels	Panicked/stressed animals, posing a risk to themselves, rescuers and other bystanders (pet owners, members of the public etc). Importance of no sudden movements or loud noises to avoid further panicking animals. Training, including Rescue 3 Europe animal awareness and animal rescue courses.
		5.3	Recall additional hazards associated with flooding, and appropriate training levels	Flash flood, expansion phase, recovery phase. Speed of water through restrictions. Creation of retentive water features. Entrapment risks. Conditions leading to the lifting of inspection covers. Chemical and biological hazards within flooded areas. Training, including Rescue 3 Europe Water and Flood Awareness, Swiftwater and Flood First Responder, or Swiftwater and Flood Rescue Technician.
6	Personal protective equipment when operating in water	6.1	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
		6.2	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
		6.3	Recall post-use care and inspection procedures for personal equipment	PPE inspection and recording, drying, storage and care



	Skill sheet element		Learning outcome	Key teaching points
7	Technical and team equipment	7.1	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
		7.2	Recall post-use care and inspection procedures for technical and team equipment	Equipment inspection and recording, drying, storage, transportation
8	Pre-planning	8.1	Recall the four components of a generic pre-plan	Management, personnel, training, equipment
		8.2	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
		8.3	Describe key information that should be included within a pre-plan	Accident hotspots in region. Risk assessments (generic and site-specific) Access and egress to rivers at typical levels and in flood events. Topography. Response plan
9	Risk assessments	9.1	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
		9.2	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
		9.3	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



	Skill sheet element		Learning outcome	Key teaching points
10	Incident size-up	10.1	Recall use of size-up models	Eg CHALET and METHANE
		10.2	Explain the phases of a successful rescue	Locate. Access. Stabilise. Transport
		10.3	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?
		10.4	List rescue options and relate them to team remit	Talk, reach, throw (SOIWSAR and above). Go, tow (SRT and above) Helo. Not a hierarchy of risk
		10.5	Explain the difference between true and conditional rescues	Ability of victim to participate
		10.6	Select an appropriate plan of action for a given incident	Decision-making models, such as TEMPOE
11	Incident management and site control	11.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders at a rescue scene	Site zoning, chain of command, team roles
		11.2	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
		11.3	Identify different roles that may be allocated at a water incident	Team leader, rigger, logistics, rescuer, medic. Downstream backup. Upstream spotters
		11.4	Apply appropriate roles at a water incident, relative to the remit of SOIWSAR training	SOIWSAR-level rescues and roles



	Skill sheet element		Learning outcome	Key teaching points
12	Medical and decontamination considerations	12.1	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
		12.2	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
		12.3	Recall the importance of minimising exposure to the water and decontamination procedures post-exposure	Decontamination including hand wipes, face wipes, decontamination spray
		12.4	Identify bank hazards, and suitable control measures to prevent slips, trips and falls	Rescue site assessment, appropriate footwear, site zoning, safety briefing
13	Considerations for night/poor visibility operations	13.1	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
		13.2	Identify types of lighting used within night operations	Snap lights, personal lights, scene lights, night vision goggles
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



	Skill sheet element		Learning outcome	Key teaching points
15	Swiftwater swimming techniques	15.1	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
		15.2	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
		15.3	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
		15.4	Adjust body angle relative to the current vector	Ferry angles, methods of adjusting body angle
		15.5	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
16	Strainer swim	16.1	Identify strainers and the hazards they pose to rescuers and casualties in the water	Entrapment, impact injury, drowning
		16.2	Understand that strainers should be avoided	Strainers should be avoided
		16.3	Understand the consequences of going underneath a strainer	Subsurface hazards are unknown: blockages and entrapments are highly likely
		16.4	Identify rescue options for a casualty in a strainer	Considerations based on training of rescuers. Eg SOIWSAR: team wade. Or calling in SRT team with higher capability
		16.5	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



	Skill sheet element		Learning outcome	Key teaching points
17	Conditional rescues - talk, reach, throw	17.1	Identify conditional rescue options and the limitations of conditional rescues	Talk. Reach. Throw. Victim participation required
		17.2	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
		17.3	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
		17.4	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
		17.5	Perform a variety of conditional rescues	Eg talk, reach pole, throwbag. Practical session in swiftwater environment, progressing to minimum grade 2 water.
		17.6	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
18	Shallow water techniques	18.1	Identify the variables and hazards that will directly affect shallow water techniques	Combination of water speed, depth and physical properties of river/channel bed, eg rocks, sand, concrete. Number of personnel and level of training. Equipment and PPE available.
		18.2	Perform single and team-based shallow water techniques	Individual, line astern, line abreast, wedge, use of wading pole, with and without tether
		18.3	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
		18.4	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
		18.5	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
		18.6	Recall the importance of avoidance (eg find bridge, different section of river, wait for river levels to drop) if encountering a river without suitable PPE.	Pre-planning (eg mapping, weather forecasts) to select appropriate route. Considerations to change route, cross at a bridge, or wait for river levels to drop.



	Skill sheet element		Learning outcome	Key teaching points
19	Casualty management	19.1	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
		19.2	Identify appropriate PPE for casualties	Buoyancy aid and helmet as required by transport options
		19.3	Identify priorities for managing casualties' common medical issues	Airway, breathing, circulation (ABC), spinal management, trauma injuries
20	People and equipment entrapments	20.1	Identify the hazards and consequences of foot and body entrapments, and control measures to reduce likelihood	Physical properties of river bed, snag hazards, submersion, trauma. Defensive swimming position. Training
		20.2	Identify extrication methods of an entrapped casualty	Hands-on methods, wading, single bank access, twin bank access
		20.3	Identify risks to the rescuers of an entrapped casualty	Access difficulties, physical properties of river bed, 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
		20.4	On dry land, or in-water, demonstrate use of stabilisation line from one and two banks	Single and twin bank entrapment techniques



	Skill sheet element		Learning outcome	Key teaching points
21	Introduction to searching rivers	21.1	Identify appropriate search models	Koester's bike wheel analogy - axle, hub, spokes, rim, reflectors
		21.2	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
		21.3	State what tasks an individual trained to this level would carry out during a river-based secondary search	Searching identified hotspots
		21.4	Recall the difference between reflex tasking and formal search operations	Reflex tasking is used at SOIWSAR, SFR or SRT level. Formal search operations are covered within the Rescue 3 Europe Searching Rivers and Floods course.
		21.5	Undertake a river search scenario, relative to the remit of someone trained to this level	Eg river-based primary or secondary search from a given briefing.





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