



# ASSESSMENT GUIDELINE

## Cross Rivers

**Unit Standard: 427**

**Level: 3 Credit: 2 Version: 7**  
**Published by Sfrito Jan 2007**

### **Purpose:**

People credited with this unit standard are able to demonstrate knowledge of river dynamics and hazards, and cross rivers safely.

### **Special Notes:**

1. When demonstrating self-rescue skills additional safety equipment may be used by the candidate including life jacket, throw bag, wetsuit, and helmet.
2. For assessment purposes at least three rivers with different characteristics must be crossed.
3. All activities must comply with any relevant environmental, legislative and/or regulatory requirements set out in the New Zealand Environmental Care Code, Health and Safety in Employment Act 1992, Injury Prevention, Rehabilitation, and Compensation Act 2001, and their subsequent amendments. The New Zealand Environmental Care Code is available from the Department of Conservation, Head Office, PO Box 10420, Wellington.
4. There are minimum assessor requirements for assessment against this unit standard. The details of these requirements are available on the Sfrito website <http://www.sfrito.org.nz/>.

**Overview of assessment:**

This assessment has two tasks:

Task 1: Show knowledge of rivers and river hazards (written or oral questions)

Task 2: Cross rivers

Task 3: Demonstrate emergency river crossing techniques

**Notes to Assessor:**

1. The assessment of Task 1 should take place prior to any practical assessment, and may be conducted at a river location or indoors.
2. Assessor should establish swimming ability of candidate prior to assessment.
3. River crossings should be conducted in Grade 2 or lower and at a flow appropriate to the candidate's ability.
4. Appropriate risk management strategies should be incorporated into this activity where appropriate (such as downstream safety personnel and upstream spotters etc.). These not be considered part of the candidate's assessment.
5. River running has been excluded from the planned methods of crossing a river due to the level of skill required and hazard.

**Resources for all tasks:**

NZ Mountain Safety Council – Bushcraft Manual available from [www.mountainsafety.org.nz](http://www.mountainsafety.org.nz)

NZ Mountain Safety Council – Outdoor First Aid Manual available from [www.mountainsafety.org.nz](http://www.mountainsafety.org.nz)

Water Safety NZ – RiverSafe Manual available from [www.watersafety.org.nz](http://www.watersafety.org.nz)

**Task 1: Show knowledge of rivers and river hazards (written or oral questions)**

**Overview of Task 1:** the focus of the assessment is to:

- show knowledge of river characteristics and hazards
- identify health problems and their treatment

**Resources:**

427 Assessment Questions (attached at the end of this document)

427 Model Answers (available from a Sfrito Client Liaison)

**Notes to the assessor**

The assessment of this part should take place prior to any practical assessment, and may be conducted at a river location or indoors.

**Instruction to candidate:**

During the task you are required to:

- Explain the characteristics of river types
- Describe basic water features found in rivers
- Describe river crossing hazards
- Identify health problems that could arise from river crossings and describe their treatment

**Element 1: Demonstrate knowledge of river dynamics and hazards**

Performance criteria	Evidence/Judgement
<p><b>1.1</b> Types of rivers and their characteristics are identified.</p> <p>Range: small bush streams, steep rivers, braided rivers, deep sluggish rivers.</p>	<p>Completes written or oral questions</p> <p>Answers match those supplied in the model answers.</p> <p>Must answer all questions in full.</p>
<p><b>1.2</b> River hydrology is described.</p> <p>Range: eddies, channels, holes, current.</p>	
<p><b>1.3</b> Potential hazards of river crossing are described.</p> <p>Range: depth, speed of current, rapids, waterfalls, water temperature, flood, strainers, rocks, aerated water, undercut banks, overhanging trees.</p>	
<p><b>1.4</b> Potential health problems arising from river crossing are identified and their treatment described.</p> <p>Range: hypothermia, drowning, cold water immersion cramps.</p>	

## Task 2: Cross rivers

**Overview of task:** The focus of this assessment is to:

- Show good judgement in making decisions about whether, where and how to cross
- Demonstrate river entry, crossing and exit techniques

### Resources:

Equipment required for activity: Tramping clothing, pack, pack liner or drybag, throwbag, and emergency equipment.

For the pack float the pack will need to contain some clothing or equipment to provide volume for buoyancy. Candidates may wear helmet, wetsuit and personal floatation vest if requested.

### Notes to assessors:

*River running* is a technique that involves running / floating along the riverbed in a downstream direction, taking opportunities to move across the river as they arise. It is risky and involves a high degree of skill. In line with current industry thinking it has been omitted from this task as a planned method of crossing rivers.

### Instruction to candidate:

During this task you are required to:

- Select an appropriate place to cross the river, and explain your decision.
- Select an appropriate river crossing method to cross the river, and explain your decision.
- Explain factors that would cause you not to cross the river for safety reasons.
- Demonstrate river crossing methods
- Retreat from a river crossing

## Element 2: Cross rivers safely

Performance criteria	Evidence/Judgement
<p><b>2.1</b> An appropriate place to cross the river is selected and its selection is justified.</p> <p>Range: entry and exit, run out, catchment area, depth and speed of river, hazards.</p>	<ul style="list-style-type: none"> <li>• Candidate chooses a method and a place to cross the river including:               <ul style="list-style-type: none"> <li>- one specific entry point</li> <li>- one intended exit point and one back-up exit point</li> </ul> </li> <li>• Entry / exit points and method are safe, appropriate to the group and the river</li> <li>• Exit point is sufficiently far downstream of entry point (e.g. using the '3 times width of river crossing' rule of thumb)</li> <li>• Explains decision making process for both the place and the method to assessor in terms of:               <ul style="list-style-type: none"> <li>- entry and exit</li> <li>- run out</li> <li>- catchment area</li> <li>- depth and speed of river</li> <li>- hazards.</li> </ul> </li> </ul>
<p><b>2.2</b> A method appropriate to the crossing place and the group is selected and its selection is justified.</p> <p>Range: must include but is not limited to – solo, mutual support, swimming, pack floating</p>	

<p><b>2.4</b> Decisions not to cross are made and justified in terms of personal and group safety.</p>	<ul style="list-style-type: none"> <li>• Finds two inappropriate places to cross</li> <li>• Explains why they are inappropriate in terms of: Group size, individual size and strength, river type, hazards, eddies, width.</li> </ul>
<p><b>2.3</b> Entry into and exit from the river are demonstrated safely and confidently</p>	<ul style="list-style-type: none"> <li>• Demonstrates <u>each</u> of following on at least one occasion: <ul style="list-style-type: none"> <li>- Solo</li> <li>- mutual support (as group leader - hip belt or clothing grasp)</li> <li>- swimming</li> <li>- pack floating (using a single pack like a boogie board, or multiple packs as a raft)</li> </ul> </li> <li>• Candidate is confident in actions and communication</li> <li>• The group is emotionally comfortable during each crossing</li> <li>• Each crossing is completed without incident.</li> </ul> <p>River running: see Note to Assessors above</p>
<p><b>2.7</b> River crossing techniques are demonstrated.</p> <p>Range: solo, mutual support, swimming, pack floating, river running.</p>	

### Task 3: Demonstrate emergency river crossing techniques

**Overview of task:** The focus of this assessment is to demonstrate emergency techniques for river crossings.

**Notes to assessor:**

A suggested scenario is that the candidate was attempting to wade across a river and has been swept off their feet.

**Resources:**

Equipment required for activity: Tramping clothing, pack, pack liner, throwbag, and emergency equipment. Candidates may wear helmet, wetsuit and personal floatation vest if requested.

**Instruction to candidate:**

During this task you are required to demonstrate emergency techniques on rivers including:

- Retreat from partial river crossing
- Self rescue during pack float
- Self rescue during swim (defensive swimming)
- Self rescue by river running.

#### Element 2: Cross rivers safely

Performance criteria	Evidence/Judgement
<p><b>2.5</b> Retreat from a partial river crossing is demonstrated safely and confidently.</p>	<ul style="list-style-type: none"> <li>• Leads a wading retreat from river current during a mutual support river crossing</li> <li>• Retreat is completed in a controlled manner with confidence and good communication from candidate.</li> </ul>
<p><b>2.6</b> Self-rescue skills are demonstrated in a simulated river crossing failure.</p> <p>Range: pack floating, swimming, river running</p>	<p>Demonstrates all 3 of the following self-rescue methods:</p> <ul style="list-style-type: none"> <li>• Pack Scenario               <ul style="list-style-type: none"> <li>- Adopts safe pack float position</li> <li>- Swims to safe area (eddy or shore)</li> </ul> </li> <li>• Swimming Scenario               <ul style="list-style-type: none"> <li>- Ditches pack (or starts without a pack)</li> <li>- Uses defensive (whitewater) swimming position and aggressive swimming as appropriate</li> <li>- Swims to safe areas (eddy or shore)</li> </ul> </li> <li>• River Running Scenario (this can only be assessed in a river section where the chance of foot entrapment is low)               <ul style="list-style-type: none"> <li>- Floats / swims / runs downstream</li> <li>- Alternates use of aggressive and defensive swimming techniques as appropriate</li> <li>- Uses current features to advantage e.g. eddies</li> </ul> </li> </ul>



The assessment requires that at least three different rivers with different characteristics be crossed. Use the following table to log the rivers crossed.

<b>River #1</b>	<b>River Name</b>	
	<b>Type of river</b>	
	<b>Flow ( m<sup>3</sup>/s)</b>	
	<b>Grade</b>	
<b>River #2</b>	<b>River Name</b>	
	<b>Type of river</b>	
	<b>Flow ( m<sup>3</sup>/s)</b>	
	<b>Grade</b>	
<b>River #3</b>	<b>River Name</b>	
	<b>Type of river</b>	
	<b>Flow ( m<sup>3</sup>/s)</b>	
	<b>Grade</b>	



# Assessment Questions

## Cross Rivers

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Candidate Name:.....

The purpose of these questions is to check that you are able to:

- Identify types of rivers and their characteristics
- Describe basic hydrology features
- Describe hazards associated with river crossings
- Identify possible health problems associated with river crossings and describe their respective treatment.

Answer all questions in full

Questions meet the requirements for PCs 1.1, 1.2, 1.3 and 1.4

**1. For each of the four types of rivers below outline their characteristics in terms of:**

- Current speed
- Flood characteristics
- River bed composition
- Depth
- Difficulties associated with crossing

<b>River type</b>	<b>Characteristics</b>
Small bush streams	
Steep rivers	
Braided rivers	
Deep sluggish rivers	

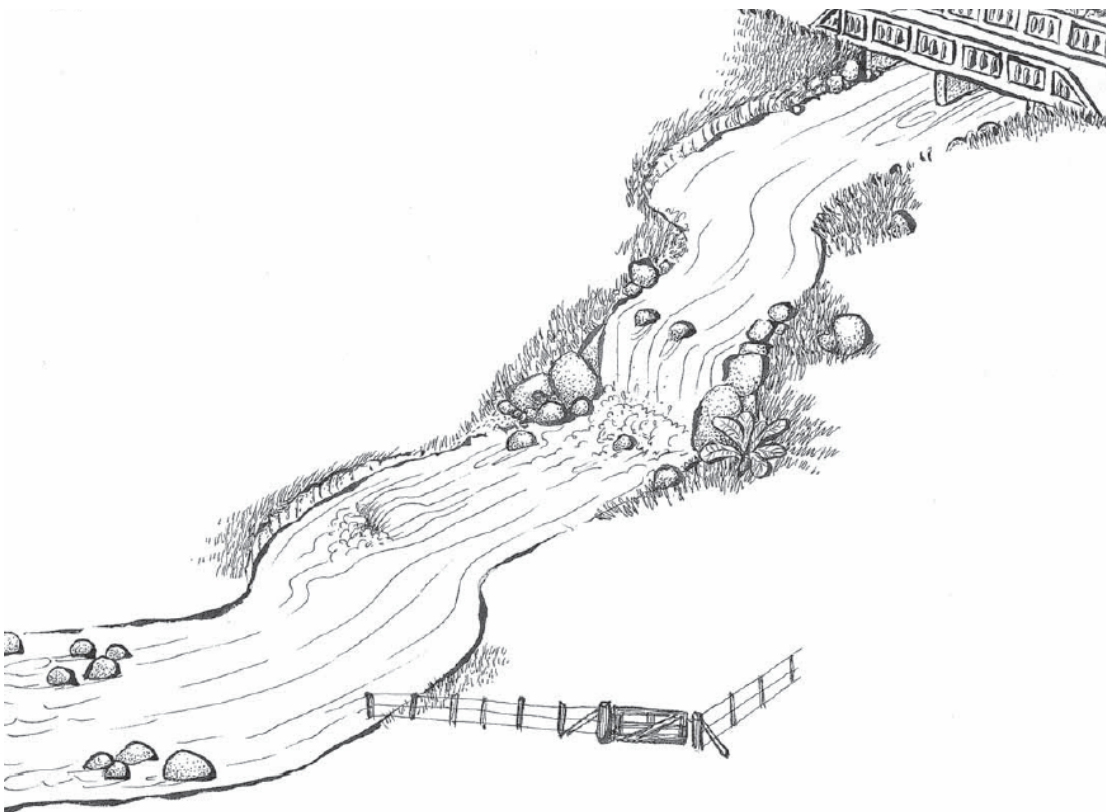
2. On the illustration below, identify then explain the following water features:

Eddies:

Channels:

Holes:

Current:



**Courtesy: Water Safety New Zealand – RiverSafe Manual**

**3. Describe the following hazards and their effect on river crossing decision making**

Depth:
Speed of current:
Rapids:
Waterfalls:
Water temperature:
Flood:
Strainers:
Rocks:
Aerated Water:
Undercut Banks:
Overhanging Trees:

**4. Describe the following three health problems arising from river crossing, and explain how to treat them**

Hypothermia:

Drowning

Cold water immersion cramps