

RISK ANALYSIS AND MANAGEMENT SYSTEM

ACTIVITY/SITUATION: Zwietholen Caving

Analysis	Description		
<p>UNDESIREDEVENT(S) Accident, injury, other forms of damage</p>	<p>Outside Cave Accident on way to cave Late start to activity Stolen property Leaving equipment behind</p>		<p>Inside cave Party member lost or whole party lost Injury from falling person or object Injury from equipment failure Injury from tripping or falling Stuck on ladder or abseil Medical emergency Party fatigue Light failure Psychological distress Claustrophobia Overdue</p> <p>Caught in flood Trapped in squeeze Severe cold or hypothermia Drowning Damage to equipment Damage to environment</p>
<p>CAUSALFACTORS</p>	People	Equipment	Environment
	<p>Outside Cave Unskilled driver Overseas drivers Lack of adequate planning Poor cave match for group</p> <p>Inside cave Unfit people in the group Peer pressure Poor communication Pre-existing medical condition Poor understanding of activity Untrained staff Poor risk management practise Lack of site knowledge</p>	<p>Outside cave Poor vehicle maintenance Incorrect equipment for cave No equipment check sheet</p> <p>Inside cave Unsuitable group equipment Poorly maintained equipment Lack of emergency equipment Lack of food and hot drinks</p>	<p>Outside cave Busy rural roads Multiple hazards on road Wet or hazardous road conditions</p> <p>Inside cave Darkness Slippery surfaces Loose rocks Confined spaces Cold Wet Heavy rainfall Deep water</p>
<p>RISKMANAGEMENTSTRATEGIES</p>	Normal Operations		
	<p>Outside cave Instructors to have correct license for vehicle they are using Drive defensively Plan appropriate trip for the group Obtain group information beforehand</p> <p>Inside cave Experienced staff with site training Analysis of accidents and incidents for staff training and site management Disclose the activity risk Active management of group safety during activity</p>	<p>Outside cave Ensure vehicle maintenance is done and vehicle is checked before use Pack correct equipment for cave Ensure 1st aid kit in vehicle Equipment cleaned and serviced before trips Equipment logged after trips</p> <p>Inside cave Carry 1st aid kit at all times Clients issued with any specialised clothing or equipment required for the cave Checks of equipment during use</p>	<p>Outside cave Drive for the conditions at the time, slow down in the wet Check weather before using cave</p> <p>Inside cave Choose safest route Protect areas of high risk from damage Protect clients if exposed to any areas of high risk Check water gauges</p>

Emergency Crisis Response

1st aid kit available on all trips
 Communication with Crisis Response Operation Control via cell phone or landline
 Hot drink and food available on all trips

RELEVANT INDUSTRY STANDARDS APPLICABLE

Waitomo Education Outdoors staff training manual 2
 Activity Management Plan (AMP) sign off
 NZ Qualification Authority unit standards
[Activity Safety Instructorlines Abseiling vs2.](#)
[NZOIA- New Zealand Outdoor Instructors Association Rock Instructor.](#)
[Activity Safety Instructorlines Caving vs1.3.](#)
[NZOIA- New Zealand Outdoor Instructors Association Cave instructor.](#)
[New Zealand Speleological Society safe caving practices.](#)
[Department of Conservation caving practices.](#)
<http://eotc.tki.org.nz/EOTC-home>

Relevant Regulations:

[Health and Safety at Work Act 2015](#)
[General Risk and Workplace Management Regulations 2016](#)
[Health and Safety in Employment \(Adventure Activities\) Regulations 2016](#)
[Land Transport Act, 1998](#)
[Crimes Act, 1961](#)
[Education Act, 1989](#)
[Vulnerable Children Act 2014](#)
[Privacy Act, 1993](#)
[Resource Management Act 1991](#)

<p>POLICIES & INSTRUCTORLINES RECOMMENDED</p>	<p>All staff to have current 1st aid certificates All clients/students to fill out medical form before partaking in activity Appropriate ratios for group management Cancel trips when there is a defined risk of flooding or the water is over specific operating levels during bad weather: (See AMP for FLOOD level gauges). Waitomo Education Outdoors staff training manual 2 Activity Management Plan (AMP) sign off Waitomo Education Outdoors (WEO) Health and Safety statement Policy, Hazard Id, Child Protection, Drug and Alcohol Impairment.</p>
<p>SKILLS REQUIRED BY STAFF</p>	<p>Good group management and facilitation skills Risk and crisis management skills Site specific training Knowledge of AMP Waitomo Education Outdoors (WEO) Health and Safety statement Policy, Hazard Id, Child Protection, Drug and Alcohol Impairment. Site specific rescue procedures. Good level of fitness. Completed Trip Report, Meds forms for day, Activity Management Plan (AMP) sign off</p>
<p>TRIP SPECIFIC RISK MANAGEMENT REQUIREMENTS</p>	<p>Ratio 1 instructor:8 clients Limit of 12 clients per trip Sturdy footwear required Warm top required Involves laddering/ropes Involves squeezes Close to delicate speleothems Entrance mud 2 instructors on all trips Industry standard Helmet & Light supplied.</p>