



Risk Assessment and Management Manual

**Version 7.0
Updated May 2023
Next Review May 2024**

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KCC Ltd KATOOMBA SITE RISK ASSESSMENT & MANAGEMENT INTRODUCTION

This document has been prepared to assist teachers/parents who are bringing school groups to the Katoomba Christian Convention for camps. This risk assessment (RA) should be used in conjunction with any RA compiled by a representative of the Department of Education and Training or the school undertaking the on-site camp. The intention of this document is to illustrate recognized hazards and how these are dealt with at the KCC Ltd Katoomba venue site.

What is a Risk Assessment?

A risk assessment is simply a look at what could go wrong – both before and during the activity – and then deciding on ways to prevent – or minimize – these potential problems.

Outdoor Program Risk Management

The company, trading as Katoomba Christian Convention Risk Assessment and Management is in line with current Industry standards as defined by TAFE NSW and ORIC AAS at the time of writing. The following information is paraphrased standards from both sources as adhered to by KCC.

When planning for Adventure Activities leaders and the organisation consider the following factors;

Activity Specific Pre-Planning Factors

- Safe access routes to, from and within the site
- Access tracks are suitable and environmentally sustainable
- Supervision requirements specific to the site/s being used (during activity, whilst in safe areas and during transition)
- Ideal characteristics relevant to activity (e.g. Appropriate level of difficulty in: orienteering course, abseil heights, archery target distance)
- Equipment is appropriate for this site and activity
- Boundaries and 'Safe areas' are clear and appropriate supervision is possible
- For activities in cliff environments - Stability and soundness of the cliff face and surrounding rock formations.
- Anchors and belay systems are solid, sound and suitable to site and participants

People

- Client objectives and outcomes of the activity
- Skill, experience and/or physical fitness required by leaders and participants
- Food and water requirements
- Leader to participant ratio
- The plan for the pre-activity briefing is appropriate to the situation
- Standard of care and supervision requirements for the group
- The emergency response strategies are sufficient and relevant; evacuation points, assembly areas and escape routes are identified.

Equipment

- Safety equipment is used in accordance with the manufacturers recommendations
- Personal equipment is appropriate for the anticipated conditions
- Participants are informed of the type and quality of equipment they are expected to bring
- Equipment supplied to participants or leaders is appropriate and in working order
- Navigation devices appropriate to the situation are available
- Communications equipment and network coverage availability within the area of operations as required; (GSM Mobile, Satellite Mobile or UHF/VHF/HF radio).
- Back-up communication devices and batteries or an alternative means of communicating is available
- Appropriate support and back up resources are available (vehicle, driver and communications)

Environment

- Landowner or Land managers permission to access the area of activity e.g. National Parks and Wildlife for Abseiling
- The Environmental Sustainability Plan is relevant to the specific activity in the specific location
- Duration of the activity, the terrain, remoteness and access
- Seasonal factors (snow, bushfire, drinking water and track conditions)
- Anticipated weather conditions and potential for extreme weather events
- Circumstances where it is appropriate and/or required to modify, postpone or cancel an activity due to weather conditions

Please note: KCC Activity Leaders have access to detailed information regarding standards in running activities, site specific risks and emergency plan details, via internal KCC Emergency Manual and other information.

Defining and rating an identified risk

A Risk is the amount of harm that can be expected to occur during a given time period due to specific harm event (e.g., an accident). Statistically, the level of risk can be calculated as the product of the probability that harm occurs (e.g., that an accident happens) multiplied by the severity of that harm (i.e., the average amount of harm or more conservatively the maximum credible amount of harm). In practice, the amount of risk is usually categorized into a small number of levels because neither the probability nor harm severity can typically be estimated with ultimate accuracy and precision.

A Risk Matrix is a matrix that is used during Risk Assessment to define the various levels of risk as the product of the **harm probability categories** and **harm severity categories**. This is a simple mechanism to increase visibility of risks and assist management decision-making. Although many standard risk matrices exist in different contexts (US DoD, NASA, ISO) individual projects and organizations need to create their own or tailor an existing risk matrix.

The harm severity index as used in this RA is categorized as:

Catastrophic - Permanent disabling injury e.g. blindness, quadriplegia, loss of hand/s or Death (rating number 5)

Major - Extensive permanent injury e.g. loss of fingers. Extended hospitalization (rating number 4)

Moderate - Significant non- Permanent Injury. Overnight hospitalization (rating number 3)

Minor - Treatment by Medical professional / hospital outpatient (rating number 2)

Noted and treated - Dealt with by staff. First Aid (rating number 1)

The probability of harm occurring might be categorized as 'Certain' - (rating number 5), 'Likely' (rating number 4), 'Possible' (rating number 3), 'Unlikely' (rating number 2) and 'Rare' (rating number 1).

The resultant "risk" is calculated by multiplying the harm severity and the probability of harm. For example, a Catastrophic (rating 5) severity occurring "rarely" (rating 1) will produce a risk rating of 5, which is a "High" risk. The mitigating and risk reduction strategies for the particular rated risks would include the following;

Low risk – continue with activity, plan the activity to eliminate minor injuries, treat any minor injuries

Moderate risk – re-design of the activity to eliminate or downgrade the identified risk, put in place control measures – continue with modified activity with controls in place

High risk – total re-design of the activity to eliminate or downgrade the identified risk, put in place control measures, if re-design not successful then do not conduct activity

Catastrophic risk – do not conduct the activity

Activity Risk Management Plans

The resulting Risk Matrix as used by KCC is as shown below:

Likelihood		Consequences						
				1	2	3	4	5
		Risk Assessment Matrix		Noted and treated	Minor	Moderate	Major	Catastrophic
		2014		Dealt with by staff	Treatment by Medical professional / hospital outpatient	Significant non-Permanent Injury.	Extensive permanent injury e.g. loss of fingers	Permanent disabling injury e.g. blindness, quadriplegia, loss of hand/s
		Assessing the level of risk associated with a hazard before applying management Strategies.		First Aid		Overnight hospitalization	Extended hospitalisation	Death
5	Almost certain to occur in most circumstances	High (H)	High (H)	Extreme (E)	Extreme (E)	Extreme (E)		
4	Likely to occur frequently	Moderate (M)	High (H)	Extreme (E)	Extreme (E)	Extreme (E)		
3	Possible and likely to occur at some time	Moderate (M)	High (H)	High (H)	Extreme (E)	Extreme (E)		
2	Unlikely to occur but could Happen	Low (L)	Moderate (M)	High (H)	High (H)	Extreme (E)		
1	May occur but only in rare and exceptional circumstances	Low (L)	Low (L)	Moderate (M)	Moderate (M)	High (H)		

Generic Activity Risk
Present at most activities

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Existing medical problems exacerbated	3	2	<ul style="list-style-type: none"> • Activity is appropriate to student/client group • Clients to be made aware of the difficulty level of the activity • First aid kit & communication device are carried at all times in an accessible position • All staff to have appropriate qualifications and/or experience for leading the activity • Before the activity commences there is an emergency response procedure already in place • Staff to be familiar with area to be used, including emergency procedures & evacuation options • An appropriate level of communication is carried i.e. Satellite phone, mobile, 2-way radio, depending on the setup of the trip • Participants sign a waiver form before joining activity, parents or guardians to sign for minors • Participants complete a medical form and bring any required medications on trip • Check clients have required medication 	High	Mod
Personal stress and anxiety	3	1	<ul style="list-style-type: none"> • Properly brief people ensuring proper communication is delivered. • Support and encourage everyone, giving an option to participate or not. • Assist participants to be challenged, sometimes outside their comfort zone but within coping levels. 	Mod	Low
Hypothermia	2	2	<ul style="list-style-type: none"> • Ensure all participants have a raincoat and appropriate clothing for the weather (i.e. Thermal, fleece or wool as warm clothes) • Participants must have on hand spare warm clothes • Ensure adequate drinking water • If group members get wet and the weather is cold, stop, get dry and warm up • Gear list provided prior to trip explaining quality e.g. expected temperatures and sleeping bag standards • During extreme weather conditions, e.g. snow, certain activities will follow contingencies. • Group is made aware of the risk of hypothermia and ways of avoiding • Pre-plan by monitoring weather forecast and by receiving real time updates 	Mod	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Sunburn	3	1	<ul style="list-style-type: none"> • Everyone has adequate water, is encouraged to drink and has access to resupply • Have regular breaks to ensure sun safe guidelines • Correct clothing and footwear to be worn • Have appropriate first aid for treatment of sun – burn, carry cool packs and excess water for cooling 	Mod	Low
Poor attitude causing disruption or injury	3	1	<ul style="list-style-type: none"> • Brief students on appropriate standards of behaviour • Model appropriate behaviour to the students • Utilize a behavioural contract e.g. Full value contract • Take disciplinary action • Remove client from location and/or course 	Mod	Low
Bus involved in vehicular accidents/incidents	1	5	<ul style="list-style-type: none"> • First aid qualified staff/ First aid equipment carried • Communication equipment carried • Driver to be familiar with access route • Driver to have required rests and be free of alcohol/drug influence • Clients to not distract driver and/or navigator • Be aware of alternate routes in case of road closures e.g. from traffic accident, fire or snow • Bus/Car to avoid (if possible) low visibility periods of the day (sunrise/sunset) 	High	Mod
Animal bites/stings	3	1	<ul style="list-style-type: none"> • First aid qualified staff/First aid equipment carried • Communication equipment carried • Responsible person to stay on site at night in case of emergency • Brief students to zip up tents when not inside them to prevent insects from entering. • Warn against the handling of any animal • Snake bite briefing on what to do/what not to do • Choose campsite free of potential nests or attractants/Any wasp or bee habitats to be reported to office for removal 	Mod	Low
Bushfire in Blue Mountains District	2	5	<ul style="list-style-type: none"> • Smoke from even distant fires can exacerbate medical conditions such as asthma, follow contingencies as required, monitor Fires Near Me App and RFS recommendations • Follow advice from RFS re: whether it is safe to remain or evacuation is advised • Follow procedures in KCC Emergency Manual 	Extreme	Cancel activity

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Injury caused by Lightning strike	1	5	<ul style="list-style-type: none"> Follow procedures in KCC Emergency Manual: 30-30 rule when in remote areas. All exposed activities cease in electrical storms for the duration of the storm, usually 30 minutes. Only recommence activity if storm has passed visually or via lightning strike indicator 	High	Mod
KCC staff not following KCC Emergency Manual	1	5	<ul style="list-style-type: none"> New staff to be provided with the KCC Emergency Manual – training in comprehension of all aspects of manual. Assessment as to understanding and compliance to manual Annual audits of compliance to relevant aspects of the KCC Emergency Manual Corrective action for staff found not to be adhering to the KCC Emergency Manual 	High	Low
Interpersonal violence	1	1	<ul style="list-style-type: none"> Relocate if necessary and mediate those involved Remove disorderly people from activity and look into removing from program Ensure attending teacher and principal have signed partnership agreement prior to commencing program 	Low	Low
Client getting lost or separated from group	1	5	<ul style="list-style-type: none"> Brief participants about “if lost and separated from group” procedure Have signs and maps around the site If overnight camping; Conduct thorough briefings to prevent misadventure such as going together with a buddy to toilets at night. Make the toilet easily accessible Students advised to bring torches for camping program, lighting around centre suitable for finding your way at night 	High	Mod
Allergic reactions; to stings, bites and food.	3	2	<ul style="list-style-type: none"> Wear protective shoes and clothing Use personal repellent if allergic to prevent exposure Check all medical forms. Get letters from doctors for at risk people e.g. asthma management plans and anaphylactic reaction sheet Staff must have current First Aid Training First aid kit on site with anti-histamines Students to provide an epi pen if anaphylactic and carry on them at all times 	High	Mod
Blisters and cuts	4	1	<ul style="list-style-type: none"> Early treatment of hot spots. Wear enclosed well-worn in shoes Bring appropriate clothes First aid kit on site Staff must have current First Aid Training 	High	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Injuries during activities	3	3	<ul style="list-style-type: none"> • First aid kit on site/Staff must have current First Aid Training • Choose sites carefully • Reduce the competitive nature of activity • Manage activities with guidelines • Assess each participant for activity 	High	Mod
Trips and falls	4	1	<ul style="list-style-type: none"> • Alert people to hazards. • Wear appropriate footwear. • First aid kit on site • Staff must have First Aid Training. • For activities in cliff environments, brief participants to stay 2 body lengths away from cliff edge. 	Mod	Low
Food poisoning or water illness	2	2	<ul style="list-style-type: none"> • Wash hands before touching food • Brief on strategies to avoid cross contamination between food items, such as colour system for chopping boards • Correct storage and management of perishables (consider foods that won't get contaminated easily) • Fill water bottles with drinking water from site 	Mod	Low
Severe weather	3	2	<ul style="list-style-type: none"> • Weather should be checked before commencement of the trip, if the conditions are considered dangerous e.g. high winds, significant rain, very cold temperatures, then the trip should be postponed or contingencies followed as appropriate • Students and staff to have appropriate clothing • Spare clothing to be carried on longer or remote trips • Required equipment to be taken • Be aware of shelter options E.g. indoor option for activities, overhangs or caves in remote areas 	High	Mod
Equipment failure	1	5	<ul style="list-style-type: none"> • Equipment to be purchased/ logged and maintained as per the specific guidelines for relevant activities • Ensure equipment is used as per manufacturers recommendations • Test or inspect equipment before each activity – ensure a log of tests/inspections is made and kept in a secure location 	High	Mod

Large branch or Tree fall	2	5	<ul style="list-style-type: none"> • Monitor trees for dead branches and take action to prevent access & remove • Check weather warnings for anticipated wind speeds • Ensure activity is not under or nearby suspect trees 	Extreme	Cancel if within tree fall
Glasses broken/ Lost Contacts	3	1	<ul style="list-style-type: none"> • Ensure client knows what is involved in the activity they will be doing today • Use an elastic strap to prevent loss or leave glasses on the bus. Carry spare contacts • Remove client from activity if glasses not found or repaired 	Low	Low

Abseiling Specific Risks

Also See Generic Risks

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
People falling off cliffs or slopes	1	5	<ul style="list-style-type: none"> Brief on cliff edge safety procedures Point out cliff edges that are not easily identifiable e.g. Concealed by bushes Monitor client movement around cliff environment All staff adhere to cliff safety standards Use safety lines of belay systems to safeguard anyone in the fall zone Eliminate trip hazards at site including rope management If a client is not responding to cliff edge safety requirements they must be warned and potentially removed from the activity 	Mod	Low
Falling rock	3	2	<ul style="list-style-type: none"> Brief on rock fall procedure from the top and the bottom of cliff Choose sites relatively free from loose rock and debris (top of cliff and face of cliff) Where appropriate and considering minimal impact strategies, remove rocks and potentially dangerous objects from the top of the cliff Wear helmets at all times in the cliff environment Be aware of other parties in the area and don't allow clients to be unnecessarily in the fall zone of our party or of another party When Multi-pitch abseiling on a slab, do not hang packs 	Mod	Low
Abseiler hitting the ground fast	1	1	<ul style="list-style-type: none"> All abseilers must have an effective belay in place Brief clients on the importance of Abseiling with control instead of reckless speed Where possible, watch abseilers all the way and as they reach the bottom prepare to slow their speed of decent 	Mod	Low
Ropes getting tangled on deploying	3	1	<ul style="list-style-type: none"> Have a look first at obstacles to avoid e.g. Trees and 'Butterfly coil' ropes before deploying it so it unravels neatly, it may work better to coil some and lower the rest. In high winds the rope can be thrown aggressively or tie a knot in the end of the rope and flake it into the guides pack as the first abseiler In top belay situations the abseil rope can be clipped in at the bottom to prevent it blowing away in high winds, ensure there is enough slack for abseilers to descend freely. It may help to clip the belay carabiner onto the abseil line so that it can track it back up the cliff and not bounce around so much 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Loss of Communication between guides	4	1	<ul style="list-style-type: none"> Hand signals are appropriate for the single pitch site we use in Katoomba, in high winds and rain All abseil guides should have whistles on hand and establish back up methods of communication 	Low	Low
Client too scared to Abseil	5	1	<ul style="list-style-type: none"> Manage by building rapport, identify fears early and talk about them to alleviate e.g. Fear about rope strength, talk about how it is strong enough to hold a car. Perform an Assisted Abseil 	Mod	Low
Failing equipment	1	2	<ul style="list-style-type: none"> Equipment is inspected regularly, have an effective system of checking ropes between trips to avoid taking out damaged ropes Check rope during flaking, use rope protection on edges, guides are careful as to how they place the rope on the rock as they abseil Always have at least a spare rope the length of the longest abseil. Guides have a spare abseil device/carabineers/prussiks/sling to make an improvised harness if need be 	Low	Low
Client has a jam in their abseil device	3	2	<ul style="list-style-type: none"> Check clients have all possible obstructions tucked away prior to abseiling including hair. Remind clients to keep their fingers clear of the abseil device Guides are confident and competent in running a crowd haul, z-drag 3:1 and 6:1, prussic assist rescue and pluck off. 	Mod	Low
Client sustains major injury while on an abseil	1	3	<ul style="list-style-type: none"> Brief on overhang negotiation and tell clients what obstacles the abseil has before they attempt it Ensure clients abseil straight down to avoid swinging Teach Abseilers "Brake" call and have prior knowledge of previous injuries in the group Safe and attentive operation of belay device from the guide. In bottom belay scenario communicate with lower guide and if able, lower client to the ground. Have a First Aid kit and relevant training and an emergency plan in WFP 	Low	Low
Client drops their abseil device	3	1	<ul style="list-style-type: none"> Guides carry 2 abseil devices on their harness e.g. Figure 8 and ATC. Give the client your Fig.8 and abseil on ATC/Munter hitch or cross crabs If it can be reached, collect gear and mark to be retired to prevent re-usage 	Low	Low
Primary anchor fails e.g. sling xl bolt	1	2	<ul style="list-style-type: none"> Be prepared to leave gear behind and carry a bail sling to replace it Thoroughly inspect the anchor on arrival for wear marks/fraying/melting/UV damage etc. Always back up the anchor during testing Stop at failure and establish a new anchor before continuing the session 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Rope Burn to abseil hand	3	1	<ul style="list-style-type: none"> • Provide clients with a glove to protect their hand from rope burn on longer descents • If clients clothing comes up let them know they can get a friction burn from rope running against bare skin and to pull clothing down • Brief clients that after long and / or fast abseils their device may get hot 	Low	Low
Scrapes during edge or overhang negotiation	1	1	<ul style="list-style-type: none"> • Brief on negotiation • Inform clients of obstacles on abseil 	Mod	Mod
People getting lost on tracks returning from abseils	1	1	<ul style="list-style-type: none"> • Give specific directions on what to do when they get to the bottom • Offer the option to come back in pairs or as a group • Provide landmarks with descriptions • Use traverse lines to assist moving from one abseil to another 	Low	Low
Damage/loss of equipment	4	1	<ul style="list-style-type: none"> • Use rope protection as required • Do not allow unattached gear near edges • Teach clients to detach abseil device with gear always attached to the rope • Check gear in and out of office 	Low	Low
Equipment Failure	1	1	<ul style="list-style-type: none"> • Regular inspections • SWL should never be exceeded • Ensure correct loading of biners • Retired equipment should be removed, marked and destroyed 	Low	Low
Abseiler falling off the rope	1	4	<ul style="list-style-type: none"> • Check that the rope reaches the bottom of the abseil or to where abseiler is going to exit the system • If abseiling out of a bag, tie a knot in the end of the rope 	Low	Low
Person falling out of harness	1	4	<ul style="list-style-type: none"> • Check each harness for correct fitting and position over hips as well as buckle closure every time prior to abseiling • For people with small hips or top-heavy body types, a chest harness should be used to provide a higher attachment for the abseil device 	Low	Low
Harness Hang Syndrome (HHS)	1	1	<ul style="list-style-type: none"> • If a person has just been hanging on the rope for a long period of time, they must have a break before going on the ropes again and briefed on HHS if appropriate • For rescue practices, have person hanging to keep moving their legs 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Noise Issues when walking to Narrow Neck	5	1	<ul style="list-style-type: none"> • Direct groups to walk on the Clairvaux Driveway between Violet Street and Oak Street to avoid walking past most residences • Instruct groups to be mindful of their noise when walking between 10pm and 8am 	High	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Becoming disconnected & falling from height	1	5	<ul style="list-style-type: none"> Two points of safety at all times Perform safety checks rigorously 	Low	Low
Shock loading to equipment	1	1	<ul style="list-style-type: none"> Ensure all safety systems do not allow for a person to fall over an edge Check for cross loading of carabineers Ensure equalisation/load of anchors as appropriate 	Low	Low
Abseiler inversion negotiating top edge, scares the abseiler and other participants waiting to abseil	3	2	<ul style="list-style-type: none"> Use high anchor points where possible Top heavy clients to use a chest harness When top belaying, break clients to prevent them letting too much rope out as they negotiate the edge, when bottom belaying lift the rope to assist them or consider a v-lower at the top may be appropriate to supplement bottom belay Account for rope stretch for abseils with anchors far from the edge 	Mod	
Client unable to disconnect from the abseil rope	1	1	<ul style="list-style-type: none"> If client is cold and having trouble with fingers, have another person help them detaching from the rope. Stop to warm client as soon as safe. Teach how to disconnect during briefings 	Low	Low
Hardship arising from Remoteness to; normal medical assistance and Remoteness from established campuses	2	2	<ul style="list-style-type: none"> Staff to be familiar with area to be used, including evacuation routes All staff to have appropriate qualifications and experience managing clients in remote areas First aid kits, communication device are carried at all times in an accessible position An appropriate level of communication is carried i.e. Satellite phone, mobile, 2-way radio, depending on the setup of the trip Before the trip commences there is an emergency response procedure already in place All appropriate authorities have been notified of the trip e.g. National Parks Relevant student information carried by teachers. E.g. medical forms or medical summary Trip plan left with 'on call' contact Weather to be checked prior to trip commencing Participants sign a waiver form before trip, parents or guardians to sign as well for minors Participants complete a medical form and bring any required medications on trip Personal hygiene should be encouraged on trip. Abseiling Activity Provider has insurance to cover misadventure 	Low	Low

Archery Specific Risks

This activity takes place on an outdoor range; it is in an urban environment (usually within 30 minutes emergency medical response time)
Also See Generic Risks

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Shot by an arrow	2	3	<ul style="list-style-type: none"> • Safety information stated in the brief and reinforced throughout the session • Firing Line identified to the participants • Waiting area or bench to be set up behind the firing line to act as a safe zone • Communication method established for safety commands, through words or whistle blasts and reinforced throughout the session • Arrows only to be touched following the command meaning, begin to "Fire" • No one to load their bow until they are standing in shooting position on the firing line • Explain if a shooter accidentally drops their arrow over the firing line they are not permitted to cross the line to retrieve it but instead use the bow to rake it back in or leave it in situ • Once a participant has shot their arrows, they are to place their bow on the ground and await further instructions • Explain no one is to talk to or distract a person when they are in the act of loading an arrow or shooting • No one to collect arrows until all bows are on the ground and the command "Collect Your Arrows" has been given • No one to move forward of the firing line until told to do so. • Staff to position themselves in such a position as to be able to see all participants who are shooting • Participants are not allowed to leave these until told to do so • Staff vigilance throughout the session 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Injury during arrow retrieval e.g. to eye or body while approaching a target for arrow retrieval	3	1	<ul style="list-style-type: none"> • Participants warned not to run when carrying arrows • Arrows to be carried with the point directional to the ground • Participants always approach the targets from the side or between never straight on • Participants to be told to check behind them before pulling out their arrows to prevent students being hit from another participant pulling out an arrow 	Low	Low
Hit by falling target	2	1	<ul style="list-style-type: none"> • Participants to place their hand on the target prior to pulling out the arrow to anchor the target • Difficult to reach or deeply embedded arrows to be withdrawn by staff only • Secure target to the industry standard, 5 degree off vertical, position 	Low	Low
Damaged or broken equipment	1	2	<ul style="list-style-type: none"> • All equipment checked prior to use by supervising staff • Damaged equipment withdrawn • Regular checks of and maintenance to equipment as necessary • Damaged equipment to be taken out of service and recorded in the withdrawn log until repairs are carried out or the item is retired • Damage happening during the session to be either repaired at the time or the item withdrawn as above and a replacement drawn from the store • Instruct new archers against "dry firing" bows, as this can lead to early limb failure 	Low	Low
Arm injury from bow string during shooting	4	1	<ul style="list-style-type: none"> • All participants to wear as a minimum a short arm guard on the inner forearm of the hand holding the bow • Long arm guards to be available for those needing them e.g. hyper extending elbows 	Low	Low
Sore fingers from drawing string back to shoot	4	1	<ul style="list-style-type: none"> • Finger tabs are permanently fixed to all strings for all participants 	Low	Low
Strained joints	4	1	<ul style="list-style-type: none"> • Instruct beginners using lightweight bows, ensure they employ correct draw technique before graduating to heavier bows to ensure appropriate draw strengths 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Danger to other third parties	2	3	<ul style="list-style-type: none"> All other staff and public on the site to be made aware of an archery session in progress 	Low	Low
			<ul style="list-style-type: none"> Exclusion zone created around the activity area Sharp lookout maintained by supervising staff A whistle on hand to signal an immediate halt to shooting as well as to signal danger to others Position range to limit this risk Brief on no sky shooting 		
Arrows deflecting back after hitting the target stand	1	1	<ul style="list-style-type: none"> The target stands are placed at an appropriate safe distance so that if an arrow is deflected, it will not come back into the archery firing area The target stands are also covered in a compressed foam to deaden the impact 	Low	Low
Incorrect setup of bows	2	2	<ul style="list-style-type: none"> Bows to be strung by instructor or with assistance from capable students under supervision 	Low	Low
Joining in on the activity after the induction/safet	1	1	<ul style="list-style-type: none"> No one will be allowed to participate in the activity if they were not present during the activity induction. If a person/s arrive while the activity is being run, the instructor will show them the appropriate place to view the activity where they are out of danger 	Low	Low
Unsupervised use of	1	2	<ul style="list-style-type: none"> Store equipment locked away 	Low	Low
Bowstring may become caught on loose hair or clothing	3	1	<ul style="list-style-type: none"> Ensure that archers tie back long hair and remove jewelry or loose outer garments, which could become caught. List of what to bring includes hair ties for long hair 	Low	Low
Fog and mist reducing visibility	4	1	<ul style="list-style-type: none"> Shooting must be suspended if the safety overshoot distance is not visible. Shooting must be suspended at the first sign of thunderstorm in the immediate vicinity and not resumed until the danger is past. 	Low	Low

Bushwalking and Orienteering

The KCC orienteering course is in an urban environment (usually within 30 minutes emergency medical response time). Conducted on site the Roads surrounding the property act as obvious boundaries. Also See Generic Risks.
 Bushwalking is conducted in the Blue Mountains National Park, on tracked Bushwalks. Also See Generic Risks.

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Getting lost	1	5	<ul style="list-style-type: none"> • Conduct thorough briefings on boundaries, do not cross any roads. • Brief a getting lost procedure e.g. meet place and time, what to do if lost 	High	Mod
Sunstroke / weather exposure illnesses	3	2	<ul style="list-style-type: none"> • Alert people to increased hazard due to location and nature of the activity involving prolonged periods outside • Everyone has adequate water, is encouraged to drink and has access to resupply • Have regular breaks to ensure sun safe guidelines, hydration and food intake is being maintained/Group members to follow sun safe guidelines • Gear list is provided to students / clients prior to ensure group has correct equipment e.g. hat, water bottles and sunscreen/Group is made aware of the risks and briefed on ways to avoid • High risk days will initiate contingency plans e.g. change in time of day for activity, change in duration of activity, increased shade, rest and water stations 	High	Mod
Participant poisoned	1	4	<ul style="list-style-type: none"> • Periodically blackberry bushes on the site have been sprayed, warn participants not to eat fruit • Inform participants that some bush foods are easily mistaken for poisonous look- a likes and do not try without proper identification and note people can have reactions to these foods including food intolerance/allergy 	Mod	Low
Trips and falls	5	1	<ul style="list-style-type: none"> • Alert people to increased hazard due to looking at compass and or trundle wheel while walking/Advise participants don't run • Wear appropriate footwear • First aid kit on site • Staff must have current First Aid Training • Steps and trip hazards around site are painted yellow or white to stand out 	High	Mod

Camping Specific Risks

The KCC Camp site is in an urban environment (usually within 30 minutes emergency medical response time). Also See Generic Risks

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Large branch or Tree fall	1	5	<ul style="list-style-type: none"> • Camp away from termite activity and dead overhanging branches • Tents are not permitted below a tree • Monitor trees for dead branches and take action to prevent access & remove • Check weather warnings for anticipated high wind speeds 	High	Mod
Burns from: <i>Sun</i>	3	2	<ul style="list-style-type: none"> • <i>Sun</i> - Wear sun protection. • <i>Cooking</i> - At meal times, have a cooking circle and use long handle utensils when cooking with camp stoves. Have access to cool water. Have First aid kit on hand and trained staff. 	High	Low
<i>Cooking</i>	3	3	<p>Use on flat ground away from dry leaves and grasses that may catch fire Explain some fuel types have flames with low visibility Conduct thorough briefings and boundaries</p>		
<i>Campfire/Fire-pit</i>	1	5	<ul style="list-style-type: none"> • <i>Fire pit</i> - Manage fires with constant adult supervision and keep under control. Wear enclosed shoes. Limit number of students surrounding the fire at any one time No running permitted and slow safe approach to fire Any students demonstrating risky behaviour to be removed from the activity Fire to be fully extinguished with water by camp host or adult only Build physical barrier to fire pit (surround all sides) 		
Campfire on KCC site	1	3	<ul style="list-style-type: none"> • Before lighting check weather conditions, RFS Bush Fire Danger Ratings & with KCC • Fire pit not to be ignited on high wind days when embers and sparks will travel • Fire pit to be fully extinguished with water by camp host or adult only • Fire blanket to be close at hand and extinguishers throughout site at key areas 	Low	Low

Hazard	Likelihood	Consequences	Management Strategy	Generic Risk Rating	Modified Risk Rating
Getting lost	1	1	<ul style="list-style-type: none"> • Conduct thorough briefings on boundaries, do not cross any roads. • Brief a getting lost procedure. • Make the toilet easily accessible and path free of trip hazards. Lighting and toilet markers where possible • Buddies at night when heading off to the toilets. • Participants will have torches. 	Low	Low
Cold or uncomfortable night's sleep	4	2	<ul style="list-style-type: none"> • Gear list provided prior to trip explaining quality e.g. expected temperatures for the time of year & sleeping bag requirements (- 5 degree Celsius bag for Blue Mountains mid-winter) • During extreme weather conditions, e.g. snow, certain activities will follow contingencies. Where possible activities such as sleeping in tents may be changed to dorm style accommodation • Students are briefed before bed on strategies to keep warm in tent e.g. insulation from ground, wearing a beanie, toileting before bed, clothing to wear, zipping up sleeping bags, hot water bottles, keeping hydrated etc. • Ensure all participants have appropriate clothing for the weather (i.e. Thermal, fleece or wool as warm clothes not cotton) including spare warm clothes. 	Mod	Low
Participant poisoned	1	2	<ul style="list-style-type: none"> • Camp cooking fuel to be poured by camp host or supervising adult • Fuel to be clearly marked and not to be stored in reused drink bottles • Skin contact with camp cooking fuel to be washed off immediately and any exposed clothing must be changed immediately 	Low	Low