



# Integrated Safe System of Work

Site Survey Risk Assessment Method Statement

## TROPICAL CANOPY CLIMBING EXPERIENCES 2015

TO BE USED IN CONJUNCTION WITH OW MEDI-VAC PROCEDURE DOCS (App1).

<b>Contracting Organisation:</b>	Operation Wallacea Ltd Wallace House Old Bollingbroke Spilsby Lincolnshire PE23 4EX  +44 (0) 1790 763 194 info@opwall.com
<b>Proposed Activities:</b>	Half day tree climbing experiences. Either morning or afternoon. Approx 4 hours each. Groups up to 16 students, divided into pairs with up to 8 students climbing at any one time. <6:1 climbing student to instructor ratio.
<b>Location of Proposed Activity:</b>	Various Op Wall managed field stations, as follows.  <u>Honduras:</u> Cusuco National Park, Merendon Mountains, N Honduras, Central America.  'Cusuco Base' 15 deg. 33' 59.44" N (approx) 88 deg. 18' 15.40" W (approx)  <u>Sulawesi:</u> Buton Island, Sulawesi, Indonesia.  'Labundo' (South Island Camp) 5 deg. 11.210' S 122 deg. 54.397' E  'Ereke' (North Island Camp) 4 deg. 35' 35" S 123 deg. 10' 01" E
<b>Personnel Involved with Activity:</b>	<u>CAL Instructors:</u>

	<p><b>Honduras</b> 11<sup>th</sup> June to 1<sup>st</sup> August 2015</p> <p>Ian Geddes – Chief Instructor Paul Bragg – Assistant Instructor (vol)</p> <p><b>Indonesia</b> 11<sup>th</sup> June to 2<sup>nd</sup> August 2013</p> <p>Alex Turner – Chief Instructor James Hindle – Assistant Instructor (vol) Aidan Chitty – Trainee Assistant Instructor</p> <p><u>Trainees:</u></p> <p>Operation Wallacea volunteers and staff; undergraduate school students, graduate science students and accompanying staff. From a variety of educational institutions. Most have very limited or no previous climbing experience.</p>
<p><b>Dates Covered by RA:</b></p>	<p>11th June to August 2<sup>nd</sup> 2015</p>
<p><b>RA Completed by/date:</b></p>	<p>James Aldred – Director, Canopy Access Limited <a href="http://www.canopyaccess.co.uk">www.canopyaccess.co.uk</a> +44 (0)780 8872370</p> <p>4<sup>th</sup> June 2015 (<b>draft 2</b>)</p>

<b>HAZARD</b>		<b>PERSONS AFFECTED</b>
1. Animal Damage to Equipment	X	Climbers
2. Animal Hazards to Personnel	X	Climbers/Ground crew
3. Available Light	X	Climbers/Ground crew
4. Personnel Injury Requiring Casualty Rescue and Evacuation	X	Climbers/Ground crew
5. Civil Unrest		
6. Communication Difficulties	X	Climbers/Ground crew
7. Complex Rigging (Beyond basic ascent/descent to & from working position on fixed vertical lines.)		
8. Dehydration	X	Climbers/Ground crew
9. Disease	X	Climbers/Ground crew
10. Electricity		
11. Extreme Cold		
12. Extreme Heat	X	Climbers/Ground crew
13. Fire Hazards		
14. High Wind	X	Climbers/Ground crew
15. Ice		
16. Lightning	X	Climbers
17. Manual Handling- Lifting etc	X	Climbers/Ground crew
18. Mental Strain- Physical/ Chemical	X	Climbers/Ground crew
19. Parties Working Above/Below	X	Climbers/Ground crew
20. Poor/Awkward Anchor Points	X	Climbers
21. Public access to Rope/Rigging	X	Climbers/Ground crew
22. Sharp Edges		
23. Sun	X	Climbers
24. Torrential Rain	X	Climbers/Ground crew
25. Transport	X	Climbers/Ground crew

<b>26. Toxic Substances</b>		Climbers/Ground crew
<b>27. Working Above Public Areas</b>		
<b>28. Working in Confined Spaces</b>		
<b>29. Working with Cranes</b>		
<b>30. Working with Cutting Tools</b>	<b>X</b>	Climbers/Ground crew
<b>31. Working with Helicopters</b>		
<b>32. Working with Inexperienced Personnel</b>	<b>X</b>	Climbers/Ground crew
<b>33. Working with Scaffolding</b>		Climbers/Ground crew
<b>34. Working with Unfamiliar Equipment</b>		
<b>35. Working Over Water</b>		
<b>36. Trainee: Instructor Teaching Ratios</b>	<b>X</b>	Climbers/Ground crew

**Training Site Descriptions**

To be completed by hand when site has been selected by chief instructor.

**Additional Site/Day Specific Hazards**

To be completed by hand by CI prior to on-site activity

**Those Affected**

HAZARDS IDENTIFIED AND RISKS ARISING	ASSESSMENT AND PROPOSED PRECAUTIONS
<p><u>1. Animal Damage to Equipment</u></p> <p>Structural damage to fabric climbing/rigging equipment via gnawing/biochemical discharge from insects and animals i.e. termites/ants and rodents. Leading to significant weakening of components and high likelihood of equipment failure.</p>	<p><u>1. Animal Damage to Equipment</u></p> <p>High risk in rainforest affecting climber reliant on weakened structures. Animal proof plastic-coated steel cable strops used for permanent anchor point rigging: one strop to be incorporated within 'shared' top anchors, ensuring that each rope has at least one such 'hard' anchor in system. Any ground anchored ropes to be tied into a loop and physically pulled through from the ground before each use to check for damage as per UK Lifting Operations &amp; Lifting Equipment Regulations 1998* and CAP training. Top anchored ropes to be visually inspected from ground via binoculars; or physically inspected prior to climb from adjacent ground based ropes (in turn 'loop' checked as described above)</p> <p><i>*See appended Weblinks for information on LOLER 1998</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><u>2. Animal Hazards to Personnel</u></p> <p>Potentially life threatening immediate hazards from venomous vertebrates, insects and arachnids. Includes snakebite; spider/scorpion bite/sting; certain toxic tree frogs, caterpillars, ants, bees, wasps and hornets. Inducing immediate anaphylaxis and subsequent toxic shock/symptoms if left untreated.</p>	<p><u>2. Animal Hazards to Personnel</u></p> <p>Medium risk to climbers and ground crew. Head nets to be carried aloft by instructors. Gloves to be worn where possible during initial exploration of trees with cavities and/or in fruit i.e. <i>Ficus spp [relevant to Indo site in particular]</i>. Trees and canopy to be minutely searched with binoculars from the ground for obvious hazards prior to climbing. Local advice/knowledge heeded. Under-storey and leaf litter adjacent to tree searched (<i>use stick to strafe leaf litter</i>) for insect nests and concealed snakes. Special attention given to leaf litter around buttress roots and cavities at base of tree.</p> <p>Climbers and crew instructed in preliminary casualty treatment and stretcher evacuation prior to commencing climbing activities. Full CAL first aid kit present at all times. Medi-vac procedure to be instigated if further medical assistance required*</p> <p><i>* See appended Weblinks (App 1) and section 4 for information on Operation Wallacea Cas-Evac procedure. See also: appended emergency procedure.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><u>3. Available light</u></p> <p>Light can fail very quickly in tropical forests. Adverse weather takes its toll and dusk lasts a fraction of the time it does at northern latitudes. Rapid light reduction may lead to difficult situations for those aloft who are not highly familiar with descent</p>	<p><u>3. Available light</u></p> <p>Moderate risk to all climbers diminished by halting canopy experience by 1700hrs each day. This provides approx an hour of adequate light to de-rig, prepare the work site for night and return safely to the field centre. Some canopy trainees may be required to ascend in low light for their morning experience (TBC by instructor on site). They should all have head torches and will be accompanied by their</p>

<p>techniques.</p>	<p>instructor adhering to the strict maximum 6:1 ratio (see section 36).</p> <p>As an amendment to experiences provided in Indonesia 2012: <u>no public canopy sleepovers will be run this 2015 season.</u></p> <p>CAL instructors may sleep in canopy occasionally if they wish (for their own recreation), but this will not be a feature of this seasons student canopy experiences.</p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>4. Personnel Injury Requiring Casualty Rescue and Evacuation</u></b></p> <p>This is a generic risk observation concerning response to any of a multitude of climber/crew injuries too extensive to fully predict comprehensively.</p> <p>Injuries can be divided into 4 basic scenarios [consistent for all 4 potential training sites in both countries]:</p> <p><b>i) Incapacitated climber stranded on ropes.</b></p>	<p><b><u>4. Personnel Injury Requiring Casualty Rescue and Evacuation</u></b></p> <p>In the event of an incident requiring emergency evacuation of a casualty:</p> <p>Climbing incidents requiring evacuation and/or medical attention where the casualty is either Op Wall staff and/or clients (school students/staff and/or volunteers) will be coordinated by Operation Wallacea and come under their generic expedition guidelines/emergency procedures.</p> <p>Canopy Access Ltd has a medical travel LIFELINE insurance policy in place with CHARTIS. Climbing incidents requiring evacuation and/or medical attention where casualty is a CAL instructor will be coordinated by Operation Wallacea, but <u>CHARTIS MUST ALSO BE INFORMED.</u></p> <p><b>CHARTIS EMERGENCY HELPLINE:</b></p> <p><b>+44 (0)208 762 8326</b></p> <p><b>CHARTIS POLICY REF:</b></p> <p><b>Canopy Access Ltd - 0010683304</b></p> <p><b>NB</b> Chartis must be informed that local immediate medical/evacuation help is being provided by Operation Wallacea, but ask them at what stage they would like the Lifeline policy will take control. For example, it may be more efficient for OW to use established expedition logistics get a casualty to the nearest airport ready for collection by a Lifeline supplied emergency airlift to hospital. ALWAYS keep Chartis in the loop and give them the opportunity to step in and take control of the emergency coordination at any stage they deem suitable to do so.</p> <p><b>i) Climbers at moderate risk from immobilisation due to e.g. anaphylactic shock; falling from branch; becoming unconscious; cutting/injuring themselves; pendulum impact; collision with dead wood; fright etc. WHERE POSSIBLE</b></p>

<p>ii) Incapacitated climber fallen to ground.</p> <p>iii) Wounded person on ground due to fallen object.</p> <p>iv) Treatment and evacuation of immobilised casualty for medical help.</p>	<p>semi-permanent ropes will be rigged into ground based belay system GBRS to facilitate rescue of climber by experienced ground crew. If obstacle obstructs clear descent of casualty on belay – <i>or ropes are rigged from fixed top anchors</i> - an aerial rescue will be required. (As per IRATA and CAP training). In accordance with Forestry &amp; Arboriculture Safety &amp; Training Council (FAST Co) Aerial Tree Rescue safety guides 401 and 402* - <i>see appended Weblinks for info</i> - a second trained climber and/or trained ground crew member capable of affecting an aerial rescue will be on site at all times operations at height are in progress. <b>No climbing to be undertaken by solitary people.</b></p> <p>ii) Minimal to moderate risk. From equipment failure, anchor failure or impaired climber judgement. All falls from 0m or more are suspected spinal injuries and dealt with accordingly. In accordance with FASTCo guide 802*</p> <p><i>* see appended Op Wall Med-Evac Web-links for info</i></p> <p>iii) Moderate risk. From items dropped by operatives working above or wind/rain dislodging unstable/dead wood or fruit. Exclusion zone erected and strictly maintained around base of tree. Zone to be large enough to realistically encompass any ricochet scenario. Enforced by trained ground crew. Mandatory wearing of helmets by all persons working/climbing within exclusion zones. <i>See no. 19.</i></p> <p>iv) Comprehensive and relevant first aid kit kept at climbing sites at all times, catering for onsite treatment/stabilisation of <i>minor injuries.</i></p> <p>Incapacitated personnel with serious injuries requiring advanced medical attention and/or emergency hospital evacuation will be stabilised and transferred back to camp where appropriate treatment/ egress can be arranged with the on-site Op Wall Medical Officer.</p> <p><b>Op Wall is responsible for immediate medical evacuation. See appended emergency procedures and Op Wall Risk Assessments with particular reference to CAL's Lifeline Plus travel insurance policy (provided by Chartis).</b></p> <p><u>Honduras</u>  <i>Base Camp:</i> Via car (OW operated 4x4) or helicopter (via Op Wall's pre-established links with USAF + Honduran military) from field site to CEMESA hospital in San Pedro Sula*.</p> <p><b>NB</b> No spinal board on site with OW in Honduras. Spinal board will be provided by military heli-crew should need for airlift arise. <b>Therefore ALL suspected spinal injuries MUST be airlifted out.</b></p> <p><u>Indonesia</u>  <i>Labundo:</i> Established Canopy Access Training site is adjacent to a 4x4 access track and emergency egress will again be coordinated by dedicated Op Wall medical staff, but will also include a flight/boat trip to main land.</p>
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	<p><i>Ereke</i>: this is a new location for this year and a suitable training tree location has not yet been chosen. Instructors will ensure that the tree is within close proximity of camp and has good emergency access/egress route.</p> <p><b>NB</b> OW will provide a spinal board that is to be carried with the CAL team between training sites. All Indo evacuation will be via foot/road/boat/fixed wing. Please see appended OW RA for Sulawesi and note: <b>there is no emergency Heli-lift available from Indonesian field sites.</b></p> <p><i>* see appended Weblinks for additional info on Op Wall emergency evacuation protocols and health and safety/incident records.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>6. Communication Difficulties</u></b></p> <p><b>i)</b> Between instructors and trainees due to technical climbing terminology.</p> <p><b>ii)</b> Between climbers working in canopy and instructors/ground crew working below due to distance and/or rain, wind noise.</p> <p><b>iii)</b> Between field group and field camp leading to slow Cas-evac response in an emergency</p>	<p><b><u>6. Communication Difficulties</u></b></p> <p><b>i)</b> Moderate risk of confusion at first, subsequently diminished by knowledge transfer via instruction and practice. Tuition paced to reflect trainee understanding of terminology and procedures.</p> <p><b>ii)</b> Moderate risk. Ground crew to keep focussed attention on climbers working above, regularly observing procedures with binoculars if necessary to maintain eye contact where possible.</p> <p><b>iii)</b> All training sites will be within <b>500m of the field camps</b> and be in touch with the camp via short wave radio and/or runner/vocal. Two members of trainee crew designated each day to act as emergency runners. They will ensure a fast response from the field camp in the event of radio failure.</p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>8. Dehydration</u></b></p> <p>Loss of body fluids due to physical exertion in hot/humid environment leading to dehydration as manifested by headaches, muscular cramps and loss of mental judgement.</p>	<p><b><u>8. Dehydration</u></b></p> <p>All crew at high risk especially climbers engaged in pronounced and prolonged physical exertion. Oral re-hydration salts in first aid kits on ground or pre-mixed in climber water bottles. Every person to have own water bottle. Chronic dehydration may need intravenous attention and require Medi Vac. <i>See section 4 iv.</i></p> <p>Prevention better than cure.</p> <p><b>High reduced to low risk.</b></p>
<p><b><u>9. Disease</u></b></p> <p>From vector-borne parasites e.g. malaria and free living bacteria/virus in contaminated water/food e.g. <i>Jardia</i> and Hepatitis</p>	<p><b><u>9. Disease</u></b></p> <p>Moderate risk. All personnel involved (instructors and trainees) advised by CAL and Op Wall* to check personal immunisations prior to journey to field site. Tablet prophylactics to be administered and taken religiously for</p>

	<p>duration advised by Doctor during pre-trip GP appointment.</p> <p>Medi Vac to be considered in disease stricken scenarios.</p> <p><i>* see appended Weblinks for additional info on CAL &amp; Op Wall health and safety suggestions.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>12. Extreme Heat</u></b></p> <p>Biological from sun.</p> <p><i>See no.'s 8 and 23 for risk assessment.</i></p>	<p><b><u>12. Extreme Heat</u></b></p> <p>Biological from sun.</p> <p><i>See no.'s 8 and 23 for risk assessment.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>14. High Wind</u></b></p> <p>High winds often occur prior to heavy rainfall in the tropical forest due to massive air displacement.</p> <p><b>i)</b> Causing tree structure movement resulting in extra strain on equipment and/or branches under tension from rigging.</p> <p><b>ii)</b> Induced fright/panic in climbers within canopy.</p> <p><b>iii)</b> Causing falling dead wood/fruit etc</p>	<p><b><u>14. High Wind</u></b></p> <p>El Nino and La Nina have upset tropical weather patterns considerably in recent years. This has broken down seasonal weather predictions and high winds can and do occur at any time and at short notice. In addition, it should be noted that April to October is the Hurricane season in Honduras- (e.g. Hurricane Mitch 1998)*. Indonesia weather can be very unpredictable and coastal/marine in nature (i.e. sudden squalls).</p> <p><i>* see appended hyperlinks for additional info on Honduras weather patterns.</i></p> <p><b>i)</b> Whenever possible ropes under tension should be slackened off in anticipation of a blow. Ropes will be disconnected from the ground anchors over night to diminish risks from termite damage (<i>see no. 1</i>) and this action will also reduce stretch damage to rigging and undue pressure on branches from storms overnight.</p> <p><b>ii)</b> High risk to the climbers. When a large tree is moved by the wind an internal inertia is created with the common effect of moving one side of the canopy independently from the other. This can be very disconcerting and spatially upsetting for a novice climber caught in the middle. At the first indications of an approaching severe blow the climbers should descend to the ground immediately. Indications of imminent high winds might include rain on the horizon; a change in forest insect/bird calls or a drop in air temperature etc. If immobilised through panic/fear a belayed evacuation from the canopy to the ground below can be affected.</p> <p><b>iii)</b> "Dead wood means dead men". Crew to be aware of any hanging dead wood in canopy that cannot be safely dislodged and cleared by the climber on their initial climb. Live branches can come down in high winds also, especially after added water weight to branch epiphytes from rainfall. Also be aware of falling fruit: for example a nut pod weighing 1kg falling 80 feet...</p>

<p>iv) Noise causing potential communication problems.</p>	<p>Everyone must be aware of the catastrophic effects of falling debris, <b>wear helmets at all times</b> and be very tuned in to what is happening in the canopy above.</p> <p>iv) All climbing activities will be stopped prior to this stage.</p> <p><b>Medium reduced to low risk.</b></p>
<p><b>16. Lightening</b></p> <p>Danger of injury/death to climber directly from strikes and to both climber and ground crew indirectly from falling debris.</p>	<p><b>16. Lightening</b></p> <p>Often accompanies rainstorms in the forest. There may be a risk of direct strike to climbers using metal equipment in the canopy. Especially in exposed emergent trees. Climbers <b>MUST</b> vacate tree at first sign of any lightening however far away. Can be belayed down if immobilised, see 4i. High secondary risk to climber and ground crew from falling debris. Requires general awareness.</p> <p><b>Medium reduced to low risk.</b></p>
<p><b>17. Manual Handling- Lifting</b></p> <p>Muscular injury and exhaustion</p>	<p><b>17. Manual Handling- Lifting etc.</b></p> <p>Moderate risk. All equipment to be carried into location by foot/4x4/mule. Avoid overfilling carry sacks. Pace physical work. Lift safely. HSE INDG 145*.</p> <p><i>* see appended Web links for info.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><b>18. Mental Strain – physical and/or chemical</b></p> <p>Causing mental instability resulting in impaired judgement and an inability to function in a safe manner. Potential for serious injury/death in climbers and ground crew.</p>	<p><b>18. Mental Strain – physical and/or chemical</b></p> <p>All crew members especially climbers at high risk from physical factors such as fatigue, dehydration and inadequate calorie intake. Moderate risk from chemical induced strain via medication side effects e.g. Larium- induced vertigo. Regular rests and meals incorporated in course structure. Each person advised in advance to be aware of potential chemical side effects of prophylactics.</p> <p><b>Medium reduced to low risk.</b></p>
<p><b>19. Parties Working Above &amp; Below</b></p> <p>i) Hazard to ground crew and those working on forest floor from items dislodged/ dropped by climbers operating above.</p>	<p><b>19. Parties Working Above &amp; Below</b></p> <p>i) High risk to those below from falling items. Strictly maintained exclusion zones will be erected around the base of the training trees. These zones will be of a realistically large size to reflect the span of the working area above and provide a buffer for items, which may ricochet off the tree trunk/branches on the way down. The wearing of helmets will be mandatory for all crew operating within the exclusion zone, including climbers. Even helmets cannot provide total protection and all those working beneath climbers must have full awareness of what is going on above. Climbers using</p>

<p>ii) Hazard to climbers in tree from others working higher within canopy.</p>	<p>equipment in canopy to have hand tools on lanyards and working materials independently attached until secure, i.e. on pulley line. <i>Also see no.'s 4 &amp; 14 above.</i></p> <p>ii) All climbers to wear helmets at all times. Attachment to rope restricts movement and can make the avoidance of falling obstacles difficult. Individual members of a climbing team must be fully aware of what their colleagues are doing at all times and climbers must remember warning calls.</p> <p><b>Medium reduced to low risk.</b></p>
<p><u>20. Poor/Awkward Anchor Points</u></p> <p>Risk from undetected weaknesses / faults in organic anchors leading to release of ropes and potential injury/death.</p>	<p><u>20. Poor/Awkward Anchor Points</u></p> <p>High risk that will be ELIMINATED by meticulous inspection of timber anchor structural integrity. Roots and/or trunks will be used for ground anchors. Alive and sound canopy branches to be used for top anchors. <b>NB</b> Rig around branch collar/adjacent to tree stem, and/or around main stem itself. Avoid leverage forces.</p> <p>Rigger to be aware of potential cavities and/or fungal damage on trunk or within leaf litter. Anchor must be obviously alive. Consult local opinion on wood strength if in any doubt. All ropes to be attached to two independent anchors providing a load share and emergency back-up in order to ensure adequate redundancy in system (as per BS 7985). In the absence of any suitable adjacent anchors the ropes can be attached to the base of the target tree itself. If this is not practical due to flaring buttress roots etc. then a number of less secure anchors can be unified via a rigging rope and load distributed accordingly.</p> <p><b>High reduced to low risk.</b></p>
<p><u>21. Public Access to Ropes and Rigging</u></p> <p>Risk of injury/death to climbers/ ground crew from interference with rigging and ropes.</p>	<p><u>21. Public Access to Ropes and Rigging</u></p> <p>Minimal risk eliminated by isolated nature of locations, presence of maintained exclusion zone and regular pre-climb checks (LOLER). If in any doubt as to security: maillon rapides screwed tightly shut with spanners will be used instead of karabiners for rigging connectors within reach from the ground. In extreme scenarios ground anchor points will use non-cut able plastic coated steel wire strops instead of fabric slings: <i>Not anticipated.</i></p> <p><b>NB</b> in 2010 a local man vandalised some of the ropes left hanging at BC training site, Honduras. This occurred overnight (never any direct risk or harm to climber) and was done by a known troublemaker. He was dealt with by his own community accordingly. The vandalism was small scale, opportunistic and restricted to ropes within arm reach (i.e. did not include anchors).</p> <p><b>Medium reduced to low risk.</b></p>

<p><b><u>23. Sun</u></b></p> <p>i) Risk to crew exposed to excessive sun whilst working.</p> <p>ii) Risk to nylon ropes and rigging from high tropical UV levels</p>	<p><b><u>23. Sun</u></b></p> <p>i) Low risk to ground crew. Higher risk to climbers in exposed canopy. Sun cream not practical for climbers due to induced loss of grip and running with sweat into eyes. Hat/helmet essential to avoid sunstroke. <i>For precautions against resulting dehydration from sun exposure see no. 8.</i></p> <p>ii) Moderate risk. Nylon polyamides in certain PPE kern-mantle ropes can become considerably weakened by prolonged exposure to UV light. UV levels are far higher in the tropics than elsewhere. Nylon 66 (rope composition used by CAL) is moderately UV stable.</p> <p>Wherever rigging is to be left in place and unused for any amount of time CAL will take down the ropes and replace them with temporary 'sacrificial' lines. These lines can be used to pull the climbing ropes back up into position when required.</p> <p><b>Moderate reduced to low risk.</b></p>
<p><b><u>24. Torrential Rain</u></b></p> <p>Risk to exposed climbers from subsequent wind chill, loss of grip and communication strain from noise.</p>	<p><b><u>24. Torrential Rain</u></b></p> <p>Moderate risk. Climbing must cease in severe instances. Loss of grip and associated hazards such as wind (<i>see 14</i>) and lightning (<i>see 16</i>) can combine to create treacherous environs. However, it is obviously impossible to remain dry in rainforest, so a pragmatic approach will be taken.</p> <p><b>Medium risk.</b></p>
<p><b><u>25. Transport</u></b></p> <p>Risks present from road traffic accidents en route to and from forest locations.</p> <p><b>Honduras</b> Cusuco Base camp is at the end of a 20km dirt track. Journey is by 4x4. Road has exposed sections with adjacent drops. Each vehicle has radio/handphone.</p> <p><b>Indonesia</b> The CAL team will be delivering climbing experiences in two locations - North and South island camps - requiring travel between the two on a weekly basis. Fridays have been chosen as nominal transit days.</p> <p>This journey (heading North) involves a 5hr drive in a local vehicle, driven by known and reliable local driver, followed by a 40 minute river boat</p>	<p><b><u>25. Transport</u></b></p> <p>Moderate risk to all participants.</p> <ul style="list-style-type: none"> <li>• <b><u>CAL staff only to travel in vehicles driven by experienced Op Wall* staff drivers.</u></b></li> <li>• <b><u>Only essential travel between training sites/airports etc.</u></b></li> <li>• <b><u>No recreational/non-canopy related travelling to be done.</u></b></li> <li>• <b><u>Do not travel in vehicles being driven by non-OW vetted staff. Under ANY circumstances.</u></b></li> <li>• <b><u>No CAL representatives to drive/operate any vehicles/machinery themselves.</u></b></li> <li>• Ensure presence of fitted seatbelts wherever possible.</li> <li>• Ensure safe weight distribution of kit in vehicle avoiding overloading and blockage of accident escape routes i.e. boot/doors/ windows etc.</li> </ul>

<p>journey, followed by a 1 hr trek on foot from the river to Ereke camp. Southbound journey is exactly the same in reverse.</p> <p><b>NB</b> Drivers and boatmen have been recruited by Chris Major's Op Walls Country Coordinator for Op Wall. By communication with the OP Wall UK office we have been assured that:</p> <p><i>"Chris's driver/boatman contacts for transit to/from North Buton are personally well-known by Chris, and have been involved in the business of transferring people to and from the site for 3 years. There have been no incidences of theft/ poorly maintained vehicles/ inappropriate behaviour at any time during the period of North Buton camps operation"</i></p> <p>Pls refer to sections KB11 to 13 within the Op Wall 2015 RA for Indo sites, for details of Buton Island transport hazard management.</p>	<ul style="list-style-type: none"> <li>• Ensure schedule allows regular breaks to refresh driver if necessary</li> <li>• Ensure first aid kit easily available in case of accident.</li> </ul> <p><i>* see appended hyperlinks for additional info on Op Wall transport protocols and health and safety/incident records.</i></p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>30. Working with Cutting Tools.</u></b></p> <p>Risks to:</p> <p><b>i)</b> Ground crew using cutting tools on forest floor.</p> <p><b>ii)</b> Climbers using cutting tools in canopy.</p>	<p><b><u>30. Working with Cutting Tools.</u></b></p> <p>High risk of injury to all users.</p> <p><b>i)</b> Only CAL employees to use parangs/machetes for preliminary vegetation exclusion zone clearance. Secondary stump tidying via handsaws to leave low, flat stubs rather than sharp parang-hewn spikes. Avoid using chopping blades in the wet and/or when tired. Keep distance from wielded blades.</p> <p><b>ii) <i>Absolutely no chopping blades to be used in the canopy whatsoever!!!</i></b></p> <p>Any canopy pruning is to be done only by CAL employees using saws which are kept out of contact with climbing equipment, either closed or within protective sheaths when not in use. Each climber to carry a small folding blade as part of personal climbing kit for emergency use only. Increased potential for injury in wet. Think about where the severed vegetation is going to fall and prime those below with clear instructions. Heavier branches to be belayed to ground in controlled manner by ground crew.</p> <p><b>High reduced to low risk.</b></p>
<p><b><u>32. Working with Inexperienced Personnel</u></b></p> <p>The inherent irony present in risk assessing any training/canopy experience activities. Potential risk to</p>	<p><b><u>32. Working with Inexperienced Personnel</u></b></p> <p>Moderate risk to all those at the climbing site. Diminished with knowledge transfer as training progresses.</p>

<p>instructors and/or trainees from over reliance upon unqualified /inexperienced personnel.</p>	<p>Good instructor to student ratios will eliminate accidents occurring via negligence. CAL employees will brief all trainees thoroughly in planned activities and emergency protocols prior to commencing tuition.</p> <p>Paramount importance will be given to tuition pacing. It is imperative that trainees are given ample time to practice.</p> <p><b>See Also 36 below...</b></p> <p><b>Medium reduced to low risk.</b></p>
<p><b><u>36. Trainee Instruction Ratios</u></b></p> <p>Accidents occurring amongst inexperienced personnel (see 32 above) due to instructor negligence whilst providing simultaneous tuition for large groups.</p>	<p><b><u>36. Trainee Instruction Ratios</u></b></p> <p><i>In accordance with teaching patterns outlined in section 32 above:</i></p> <p>Each instructor will only be effectively responsible for a maximum of 6 on-the-rope Canopy Experience trainees at any one time. (<i>Legal ref. RIG Systems International</i>). X4 being the norm. As such, the training schedule will allow for a maximum tuition of 8 climbers (plus x8 ground restricted 'buddies') per instructor.</p> <p><b>Medium reduced to low risk.</b></p>

## Appendix 1

Links to further information *[all links checked as being active on 02.05.13]*

### Travel health information and advice in the UK

*It is the personal responsibility for all individuals involved to check that their immunisations are comprehensive and up to date.*

Hospital for Tropical Diseases, London 0207 387 4411. Health line- 0839 337733

Interhealth, London 0207 902 9000. email- [InterHealth@compuserve.com](mailto:InterHealth@compuserve.com)

MASTA (Medical Advisory Services for Travellers, London 0207 631 4408

### Working at Height Legislation in the UK

Lifting Operations and Lifting Equipment Regulations 1998 (LOLER):

<http://www.hse.gov.uk/pubns/indg290.pdf>

Forestry & Arboriculture Safety & Training Council (FAST Co) 401, 402 & 802:

<http://www.hse.gov.uk/pubns/forindex.htm>

Information on British Standard BS7985:2002- "Code of Practice for the Use of Rope Access Methods for Industrial Purposes" can be found at:

[www.irata.org](http://www.irata.org).

**Operation Wallacea Protocols (cut and paste into browser).**

**1 “Approach to Health and Safety”**

<http://opwall.com/expeditions/honduras-expedition-information/honduras-health-and-safety/>

**2 OW Honduras Risk Assessments**

<https://opwall.com/wp-content/uploads/Risk-Assessment-HONDURAS-2015.pdf>

**3 OW Honduras Medical and Evacuation Procedures**

<https://opwall.com/wp-content/uploads/Honduras-Medical-and-Evacuation-Procedures-2015.pdf>

**4 OW Sulawesi Risk Assessments**

<https://opwall.com/wp-content/uploads/2015-risk-assessments-indonesia.pdf>

**5 OW Sulawesi Medical and Evacuation Procedures**

<https://opwall.com/wp-content/uploads/2015-Evacuation-and-repatriation-procedures1.pdf>

**Canopy Access Limited training programmes**

[www.canopyaccess.co.uk](http://www.canopyaccess.co.uk)

**Honduras Weather Information**

National weather service web pages: the national hurricane centre:

<http://www.nhc.noaa.gov/>

Operation Wallacea  
Canopy Experience **HONDURAS** 2015

## **EMERGENCY PROCEDURE**

**Chartis 'Lifeline Plus' insurance policy emergency helpline:**

**+44 (0)208 762 8326**

(See note on p2 below)

<b>Climbing Location:</b>	BC camp; Cusuco NP; Honduras
<b>Nearest Hospital:</b>	CEMESA Hospital San Pedro Sula
<b>CAL Chief Instructor/Safety Officer:</b>	Ian Geddes
<b>CAL 2IC Instructor/Safety Officer:</b>	Paul Bragg
<b>Op Wall Field Manager:</b>	Steve Green
<b>Senior Op Wall Staff:</b>	Alex Tozer and/or Tim Coles

- **Repeated whistle blasts will be made to signify an emergency.**
- Everyone will stop work immediately; descend to the ground and clear immediate area.
- **Casualty will be rescued from ropes (if required), assessed and stabilized by CAL staff.**
- CAL Chief/2IC summoned using radio if not at site of incident. CAL staff to take full control of situation.
- **2x emergency 'runners' will return to field camp to raise alarm with on-duty Op Wall camp manager.**
- Op Wall Camp Manager to arrange vehicle standby or helicopter casevac if appropriate. CAL instructors to get message to CALs medi-vac insurers ASAP: Chartis emergency helpline +44 (0)208 762 8326. *See note on p2 below.*
- **Op Wall camp radio operators to contact Steve Green/Alex Tozer/Tim Coles (senior OW staff)**
- Casualty evacuated to stand-by vehicle and transported to hospital.
- **No further work/climbing until permission given by chief instructors.**
- Nothing to be touched or moved until permission given by CAL and OW staff. Incident to be sensitively recorded/photographed by CAL instructors for records.

**NB**

**In the event of an incident requiring emergency evacuation of a casualty:**

Climbing incidents requiring evacuation and/or medical attention where the casualty is either Op Wall staff and/or clients (school students/staff and/or volunteers) will be coordinated by Operation Wallacea and come under their generic expedition guidelines/emergency procedures.

Climbing incidents requiring evacuation and/or medical attention where casualty is a CAL instructor will be coordinated by Operation Wallacea also, but

**Chartis MUST be informed by calling their emergency helpline +44 (0)208 762 8326 IMMEDIATELY.**

**James Aldred – CAL Director – must also be called on +44 (0)780 8872370 in the event of any situation requiring medical attention.**

Chartis must be informed that local immediate medical/evacuation help is being provided by Operation Wallacea, but ask them at what stage the Lifeline policy will take control. For example, it may be more efficient for OW to use established expedition logistics get a casualty to the nearest airport ready for collection by a Lifeline supplied emergency airlift to hospital. ALWAYS keep Chartis in the loop and give them the opportunity to step in and take control of the emergency coordination at any stage they deem suitable to do so.

Operation Wallacea  
Canopy Experience SULAWESI 2015

## **EMERGENCY PROCEDURE**

**Chartis 'Lifeline Plus' insurance policy emergency helpline:**

**+44 (0)208 762 8326**

(See note on p2 below)

<b>Location:</b>	LB & B camps, Bau Bau, Sulawesi; Indo.
<b>Nearest Hospital:</b>	Rumah Sakit Umum Buton (minor), Bau Bau <b>OR</b> Rumah Sakit Akademis (med/High), Makassa.
<b>CAL Chief Instructor/Safety Officer:</b>	Alex Turner
<b>CAL 2IC Instructor/Safety Officer:</b>	James Hindle
<b>Op Wall Field Manager:</b>	Chris Majors / Tom Martin
<b>Senior Op Wall Staff:</b>	Tim Coles

- **Repeated whistle blasts will be made to signify an emergency.**
- Everyone will stop work immediately; descend to the ground and clear immediate area.
- **Casualty will be rescued from ropes (if required), assessed and stabilized by CAL staff.**
- CAL Chief/2IC summoned using radio if not at site of incident. CAL staff to take full control of situation.
- **2x emergency 'runners' will return to field camp to raise alarm with on-duty Op Wall camp manager.**
- Op Wall Camp Manager to arrange vehicle standby or helicopter casevac if appropriate. CAL instructors to get message to CALs medi-vac insurers ASAP: Chartis emergency helpline +44 (0)208 762 8326. *See note on p2 below.*
- **Op Wall camp radio operators to contact Alex Tozer/Tim Coles (senior OW staff)**
- **Casualty evacuated to stand-by vehicle and transported to hospital.**
- No further work until permission given by chief instructors.
- **Nothing to be touched or moved until permission given by CAL staff. Incident to be sensitively recorded/photographed by CAL instructors for records.**

**NB****In the event of an incident requiring emergency evacuation of a casualty:**

Climbing incidents requiring evacuation and/or medical attention where the casualty is either Op Wall staff and/or clients (school students/staff and/or volunteers) will be coordinated by Operation Wallacea and come under their generic expedition guidelines/emergency procedures.

Climbing incidents requiring evacuation and/or medical attention where casualty is a CAL instructor will be coordinated by Operation Wallacea also, but

**Chartis MUST be informed by calling their [emergency helpline +44 \(0\)208 762 8326](tel:+442087628326) IMMEDIATELY.**

**James Aldred – CAL Director – must also be called on +44 (0)780 8872370 in the event of any situation requiring medical attention.**

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