



# Operation Wallacea

Conservation research through academic partnerships

Risk Assessment and Management  
In Egypt 2011

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2011 - S1 Sharm El Sheikh

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Road traffic accident	M	M	Ensure all staff and volunteers are told of the dangers of the busy traffic in Sharm El-Sheikh Ensure that all vehicles used are assessed for safety
Getting lost	L	M	Ensure all volunteers are met at airport and given contact details for Op Wall staff
Theft	M	M	Volunteers to be warned of potential problem with pickpockets in crowded places
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

2011 - S2      Dolphin Camp, Dahab

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Medical problem for volunteer or staff member	M	M	There are good medical and recompression facilities within 15 minutes of the base
Need for emergency evacuation	L	H	A vehicle will remain at the base at all times for evacuation to the hospital (15 minutes) or recompression facilities.
Lack of hygiene increasing risk of disease	M	M	Camp cooking hygiene to be checked regularly by the Camp Manager. Bottled water to be provided for all volunteers and staff
Fire	L	H	Ensure that staff are trained in the fire and evacuation to a safe point procedure No smoking to be allowed in any building or tent
Volunteer attacked at the camp	L	M	There is a 24 hour police guard at the only entrance to the bay where the students are staying. The staff are staying on site with the volunteers
Tripping or falling in camp	M	M	All volunteers given a health and safety briefing and a tour of the camp on arrival so that any areas where there is an increased risk of falling or tripping are identified. All volunteers told to use a torch when walking around at night.
Sting from a scorpion	L	H	All volunteers briefed on the scorpion species likely to be encountered and taught to identify which have fatal stings. The briefing also includes how to reduce likelihood of stings in the field by checking all sleeping bags, clothing and footwear before putting them on. Medical officer carries the antivenom in a cool box and also carries antihistamine.
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

2011 - S3 Fox Camp (St Katherine) and Nuweiba Desert Camp

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Medical problem for volunteer or staff member	M	M	There are good medical and hospital facilities within 10 minutes of the research centre
Need for emergency evacuation	L	H	Hospital facilities capable of stabilising patients are within 10 minutes of the Camp and there is always a standby vehicle on site
Lack of hygiene increasing risk of disease	M	M	Camp Manager to check that the kitchen is kept clean and food types prepared separately
Fire	L	H	Ensure that staff are trained in the fire and evacuation to a safe point procedure No smoking to be allowed in any building
Volunteer becoming lost in the desert and unable to find the camp	L	M	All groups leaving camp must sign out on a whiteboard system with details of where they are intending to go and estimated time of return. If the group does not return on time then the Camp Manager to organise a search and rescue team. No group to go into the desert without a guide, sufficient water and First Aid kit. Expedition members to be trained on their first day on what to do if they do get lost and how to avoid separations.
Sting from a scorpion	L	H	All volunteers briefed on the scorpion species likely to be encountered and taught to identify which have fatal stings. The briefing also includes how to reduce likelihood of stings in the field by checking all sleeping bags, clothing and footwear before putting them on. Medical officer carries the antivenom in a cool box and also carries antihistamine.
Volunteer being attacked in the town or at the Camp	L	M	Volunteers wishing to leave the camp and walk into town must do so in pairs and have signed out with return times on the whiteboard. There are numerous police check points surrounding both St Catherine and Nuweiba and the chances of any incidents is extremely low. There are camp staff on security duty at all times.
Drowning whilst swimming at the Nuweiba Camp	L	H	Swimming only allowed when supervised by a qualified staff member, and no swimming whatsoever is allowed at night time.
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

2011 - S4 Desert mobile camps

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Scorpion or snake bite at camp	L	M or H	The Bedouin teams are trained in how to select overnight sleeping sites away from rocks. The area is cleared of stones and then a line of deterrent (mixture of bathroom cleaner and diesel) is sprayed in a circle around the outside of the camp. This mixture, which is used by the Bedouin when camping out is very effective at deterring scorpions and snakes.
Lack of hygiene increasing risk of disease	M	M	All drinking water to be bottled or from a secure source (sterilised/boiled/iodine treated). Trek Leader to ensure that the food is prepared in as clean a conditions as possible on field camps
Medical problem for volunteer or staff member	M	M	A medical officer will be staying with the mobile team at all times with an extensive First Aid kit. There is a vehicle at the camp at all times and any patient needing more extensive treatment can be evacuated to the nearest hospital facility in less than 4 hours. There is also a satellite phone that can be used for additional medical advice.
Volunteer attacked at night	L	M	The camps are guarded by Bedouin staff through the night and the volunteers sleep in single sex groups in the open and in full view of the staff.
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

2011 - G1      Trekking & survey work

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Trek routes to take the group near to cannabis fields	L	L	There are small fields of cannabis grown by Bedouin in some of the remote wadis. However, the route to be taken will have been checked by NSF staff before the start of the expedition and the route to be taken changed if there any cannabis fields in the area.
Lack of available medical help	M	M	The survey transects are not more than 2km long, so the maximum distance a volunteer could be from the medic, who is with the survey teams, is 2km. If an incident occurs the Bedouin guide will run to the medic and return with him and with means to coordinate an evacuation.
Need for evacuation	M	H	There are standby vehicles throughout the trek and if there is a need for more advanced medical attention than available in the trek group then the patient will be evacuated to the nearest hospital. Normally this will be either St Catherine's hospital or Nuweiba hospital and this is never more than 4 hours drive from any of the trek sites.
Volunteer becoming lost in the desert	L	H	All volunteers work together in groups with a guide and are never allowed to work on their own
A fall resulting in serious bleeding or a bone fracture	L	H	There is very little climbing needed and the groups are generally working in areas that are accessible by vehicle so do not require climbing. The Bedouin teams are very experienced at ensuring that no ascents or descents on valley sides are attempted that are too difficult for the group. All volunteers to be instructed to wear boots with good grip.
Dehydration leading to death	L	VH	All guides are trained to look for signs of dehydration or heat exhaustion and to ensure the students are allowed to rest in the shade if there is a suspected problem. All volunteers are repeatedly told to drink as much bottled water as possible and to wear hats.
Snake bite from Saw-scaled viper, Egyptian cobras or desert horned viper.	L	H	All volunteers instructed not to approach any snake species even if it is considered non venomous. If bitten the patient should be immobilised and spread of the toxin slowed by bandaging. The patient evacuated by vehicle to the nearest hospital. The Medical

			officer accompanying the group carries anti-venom in a cool box and can administer in the field with antihistamine if necessary.
Bat bite	L	H	Only volunteers and staff who have received rabies injections to be allowed to handle bats. Any volunteer or staff member bitten by a bat to be taken to hospital for post exposure treatment.
Scorpions	L	H	All volunteers briefed on the scorpion species likely to be encountered and taught to identify which have fatal stings. The briefing also includes how to reduce likelihood of stings in the field by checking all sleeping bags, clothing and footwear before putting them on. Medical officer carries the antivenom in a cool box and also carries antihistamine.
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

## 2011 – G2 Road travel

<b>Risk</b>	<b>Likelihood of occurrence during expedition</b>	<b>Severity of occurrence</b>	<b>Control Measures</b>
RTA or other vehicle related incident	M	H	All drivers to be told to drive slowly and carefully at all times and within speed limits. A staff member to ensure this happens should accompany all groups. Any driver not adhering to safe driving practices to be dropped from driving Opwall groups. All vehicles to be vetted for mechanical errors, ensuring that the vehicle is suitable for the journey is in good working order and has seat belts fitted. Each vehicle to have a mobile phone, the necessary equipment for changing the wheels and to carry a torch and sufficient water for the journey in case of breakdown.
Control measures not implemented	M	M	Local Opwall coordinator to be responsible for auditing the control measures on a regular basis (see relevant audit form). These audit reports including details of non compliances and corrective measures to be available for inspection on site

2011 – G3 Diving

Risk	Likelihood of occurrence	Severity of occurrence	Control Measures
Injuries during kitting up process.	L	M	All volunteers are instructed to lay tanks down onto dive benches at all times when they are not holding the tank and to make sure that they turn on cylinder valves slowly and face the gauge away from them.
Decompression sickness	L	H	Dives are limited to 3 per day with a minimum 3 hour surface interval between dives, a maximum depth 18m for survey dives. Maximum dive time of 50 minutes with a 5 minute stop at 5m before surfacing. All diving is shore-based, and there are oxygen kits available at the dive camp on the shore. The hyperbaric chamber in Dahab is less than 15 minutes drive from the dive site. There is always a vehicle on standby to facilitate an evacuation to the chamber if needed. There is a qualified staff member who can administer oxygen during the evacuation.
Being hit by boat on surfacing	L	H	Surface slowly with arm raised and slowly turning to check for risks. Diving only allowed in pre-agreed areas which are free from boat-traffic. Dive leaders to ensure that there are no boats overhead when the group is surfacing.
Becoming separated from buddy	L	M	Ensure that all staff and volunteers are trained in the lost diver procedure.
Being carried away by currents or to greater depths by down currents	L	H	Ensure that risk assessments are completed for each dive site and used by all staff in dive planning. Ensure that the Dive Leader checks the conditions on the day before the group enter the water
Barotraumas	L	H	All staff and volunteers informed of risk of barotraumas when diving and the safe equalisation procedure which includes aborting the dive if equalisation is not possible. All staff and volunteers to be informed that they should not dive with an upper respiratory tract infection. All staff and volunteers to be informed of the dangers of using decongestants when diving. Ensure all volunteers and staff are informed of the serious danger of breath holding whilst scuba diving.
Dangerous sea animals	L	M	Before any students are allowed to enter the water they have a lecture on possible dangerous organisms they might encounter and how to reduce the risks from them. Wetsuits are also to be used to protect against stinging nematocysts. If box jelly fish or other dangerous species are noted in the area, all diving and snorkelling to be aborted. All volunteers and staff to be told never to touch the reef when diving or snorkelling
Sharks	L	H	Majority of sharks encountered will be small reef sharks and harmless. If there are any sightings of large dangerous sharks during the OpWall season then all in water activities will be suspended until the shark has moved away. Following shark attacks in 2011 in Sharm El Sheick (some 250km South of the dive camp), all resorts and dive operators are strictly prohibited from feeding sharks (which had previously drawn the oceanic sharks responsible for the attacks closer to the shore).
Control measures not implemented	M	M	Senior coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non-compliances and corrective measures to be available for inspection on site.

2011 – G4 Snorkelling and swimming

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Being hit by a boat whilst snorkelling	L	H	Ensure that all staff and volunteers are told that they must snorkel or swim only with a Divemaster or lifeguard providing shore cover or in-water cover. No swimming at all after dusk.. All snorkellers and swimmers are instructed to stop every 2 minutes and check around them for any nearby boats and ensure the group are still together.
Being swept out to sea by offshore currents	L	H	If the currents are strong the Divemaster to bring the group back to shore. No swimming unless accompanied by a Divemaster to be allowed.
Being stung when wading at the start and end of the snorkel.	L	M	All volunteers are told that they should wear full foot fins or boots and fins with straps and enter and exit the water walking backwards when snorkelling. If swimming all volunteers are advised to wear footwear at all times.
Being stung when swimming or snorkelling	L	M	Ensure that all staff and volunteers are advised to wear wetsuit or other cover up to protect against stings in the water. Ensure that all staff and volunteers are trained in the identification of dangerous animals and instructed never to touch these or any part of the reef.
Control measures not implemented	M	M	Senior coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non-compliances and corrective measures to be available for inspection on site.

2011 – G5 Medical support

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Stomach upsets	M	M	Ensure all staff and volunteers drink or wash their teeth in bottled water. Ensure that personal hygiene issues are emphasised in briefings to avoid spread of infectious diseases amongst a group of people living in close proximity.
Heat stroke and sunburn	M	M	Ensure that all volunteers and staff are aware of the need to drink a minimum of 3 litres of water a day. The way to monitor whether adequate fluid is being taken is to monitor the volume and colour of urine. All volunteers and staff to be told of significant risk of sunburn particularly when trekking and to have become adequately prepared with high factor sun block for the duration of their stay and hats.
Wounds	M	M	Ensure all cuts, however insignificant, are cleaned with clean water and betadine/antiseptic is applied. All volunteers and staff to be made aware that there is a greatly increased risk of secondary infections in the marine environment. Assess daily and if the wound appears to become infected then report it to the medical staff.
Lack of medical advice	L	H	Detailed medical questionnaires to be completed by all staff and volunteers before joining the expeditions. These questionnaires to be reviewed by an Expedition Medic prior to the start of the expeditions and any staff or volunteers that appear to have medical conditions that might affect their ability to participate in the expeditions, informed so that additional medical advice can be obtained. A medical staff member to be present with the mobile survey teams and a English speaking doctor is available 24/7 within 15 minutes of the Dolphin Camp. Communication facilities at each site to allow additional advice from external medics. Evacuation plans for different levels of emergency (High, Medium, Low) in position at each site.
No feedback system to reduce accidents and illnesses	L	M	The Expedition Coordinator to record the number of accidents, near misses and illnesses at their camp into 7 categories of seriousness and to hold bi-monthly meetings to discuss how these incidents could be further reduced.
Control measures not implemented	M	M	Senior coordinator to be responsible for auditing the control measures and camp procedures on a regular basis (see relevant audit form). These audit reports including details of non-compliances and corrective measures to be available for inspection on site.

2011 – G6 Terrorist Attack

Risk	Likelihood of occurrence during expedition	Severity of occurrence	Control Measures
Terrorist Attack	L	H	Terrorist attacks in Egypt in the past have focused on tourist areas. Operation Wallacea volunteers will not spend time during the expeditions in areas considered to be at threat from terrorist attacks. Since the bomb attacks in 2005 security has been substantially increased with checkpoints outside each town. The desert survey teams will be operating in areas far removed from the tourist sites, and will always be accompanied by well-respected local guides. In addition our trek teams ensure they have approval (and therefore protection from) from the relevant area's chief prior to the survey work. There is a police checkpoint immediately outside the Dolphin Camp at Dahab.