

Appendix 13: Risk register

| Category | Hazard/Risk | Eliminate, Isolate or Minimise | Controls |
|------------------------------------|-------------------------------------|--------------------------------|--|
| Animals | Animals, insects, reptiles, mammals | | <ul style="list-style-type: none"> Do not approach unfamiliar animals Do not disturb or try to move animals All animals can be unpredictable so stay clear Leave farm gates as you found them Carry your own medication (antihistamines, epi-pen) Carry specialist kits where needed (e.g. snake bite kit) |
| Chemicals and hazardous substances | Chemicals and laboratory work | | <ul style="list-style-type: none"> Requirement of PC1 labs fully adhered to Correct PPE to be worn in laboratory and workshop environments Chemical work has individual risk assessment Central store for stocks of chemicals Chemicals stored correctly MSDS followed Green work slip displayed at all times Laboratory induction attended and test passed (annually) Appropriate expertise is available for supervision Relevant ENV safety guides are read, understood and followed |
| Confined spaces | Tight spaces, narrow openings | | <ul style="list-style-type: none"> Confined space requirements met Confined space register kept Confined space entry permit Confined space entry training Confined space emergency procedures |

| | | | |
|---------------------------|---|--|---|
| | | | <ul style="list-style-type: none"> • Safety signage • Restricted access |
| | Caves and mines | | <ul style="list-style-type: none"> • Do not enter caves or mines without operator permission • Do not enter caves or mines without proper training • Do not enter caves or mines alone • Do not enter caves or mines without correct PPE • If site is operated by a company then you must follow all of their rules and procedures • Be careful of half-filled holes • Be careful of abandoned machinery |
| | | | |
| Diving and boating | Water craft | | <ul style="list-style-type: none"> • When working in the water, be aware of boats, jet skis and other watercraft – wear high visibility apparel if required. • Keep all in-water work away from ski lanes. • Appropriate expertise is available for supervision • Relevant ENV safety guides are read, understood and followed |
| | Entanglement in ropes | | <ul style="list-style-type: none"> • All buoy ropes must be tidily wound until equipment is in place. Clip buoy lines onto frames with lanyard clips <u>after</u> installation. • All participants must remain up-current from ropes, lines and buoys. |
| | Entanglement or impacting equipment or frames | | <ul style="list-style-type: none"> • All participants must be positioned such as to minimise the risk of being swept into the frame (or having the frame washed onto them) by waves or currents. • Minimise sharp edges or points on frames and equipment by removing or covering them |
| | | | |
| Electrical | Electricity and use of electrical equipment | | <ul style="list-style-type: none"> • Pre-purchase safety considerations • Visual inspections for damage • Scheduled testing and tagging of portable electrical equipment by qualified staff or contractors • Tag out and remove from service damaged or faulty equipment • Use of RCDs • Signage |
| | | | |
| Emergencies | Fire | | <ul style="list-style-type: none"> • Procedures for responding to a fire and evacuation of the building |

| | | | |
|------------------|--------------------------|--|---|
| | | | <ul style="list-style-type: none"> • Regular fire drills and staff training • Escape routes clearly marked and kept clear • Fire doors kept clear • No overloading of electrical sockets • Relevant ENV safety guides are read, understood and followed |
| | Tsunami | | <ul style="list-style-type: none"> • While of a lower probability, the risk is ever present. <u>Do not</u> undertake work in low lying coastal areas when there is a tsunami warning in place. • It is highly recommended that those working in coastal areas maintain appropriate communication channels such that they can be warned of an impending tsunami (e.g., cell phone, radio, or even FM radio). • Relevant ENV safety guides are read, understood and followed |
| | Separation from group | | <ul style="list-style-type: none"> • Stay within sight of the group at all times • Assign two people to check regularly for completeness of the group • Make sure all participants are together before approaching a hazard |
| | Limited communication | | <ul style="list-style-type: none"> • Regular check ins with supervisor or appointed person • Take other means of communication (VHF, PLB, EPIRB, satellite phone) when appropriate. |
| | Limited medical services | | <ul style="list-style-type: none"> • Always carry a first aid kit • Carry specialist kits as needed for the area (i.e. snake bite kit) • Carry your own medication (antihistamines, epi-pen) – these are not provided by the School. |
| | | | |
| Equipment | All equipment | | <ul style="list-style-type: none"> • Correct PPE – glasses, covered shoes, hard hats, gloves as required • Manufacturers instructions followed and adhered to • SOPs followed • Trained and authorised operators (not all equipment) • Service, maintenance and calibration schedules followed • Annual inspection as well as inspection before use • Appropriate expertise is available for supervision |

| | | | |
|------------------------------------|---|--|---|
| | | | <ul style="list-style-type: none"> • Relevant ENV safety guides are read, understood and followed • Where equipment is being sought from external agencies, the relevant health and safety information is read, understood and followed |
| Laboratories | | | <ul style="list-style-type: none"> • Laboratory manuals • Training • Laboratory risk assessments • Restricted access • Laboratory inductions and test must be completed annually • Laboratory inspections • Personal protective equipment • Refer to specific hazard classification for required controls • Appropriate expertise is available for supervision • Relevant ENV safety guides are read, understood and followed |
| Manual Handling and lifting | Straining/stressing from lifting or over-exertion | | <ul style="list-style-type: none"> • Maintain standard manual handling and lifting techniques (see the <i>Manual Handling</i> procedure in the Fundamental Safety Information section of the Schools H&S website). • Manual handling risk management plans • Manual handling training • Workstation ergonomic assessments • Mechanical aids and lifting devices: <ul style="list-style-type: none"> ○ trolleys ○ forklifts ○ pedestrian stackers and walkers ○ platform ladders ○ hoists • Pre purchase safety considerations • Provision of ergonomic equipment • Relevant ENV safety guides are read, understood and followed |
| Noise | | | <ul style="list-style-type: none"> • Purchasing less noisy plant and equipment |

| | | | |
|---------------|-------------------------------|--|--|
| | | | <ul style="list-style-type: none"> • Acoustic engineering controls • Noise Risk Assessments • Audiometric screening • PPE - hearing protection • Hearing protection training • Signage |
| People | Crowds/Spectators/Inhabitants | | <ul style="list-style-type: none"> • Be aware of general public. They may come up to you asking what you are doing • Do not take candy from strangers • Remove yourself and others from immediate danger if safe to do so • Note the local phone number for Police; in New Zealand this is 111 • Relevant ENV safety guides are read, understood and followed |
| | Participants | | <ul style="list-style-type: none"> • All social interactions are conducted in a courteous and respectful manner • All participants receive necessary safety related information and resources • activities are adjusted to meet the capabilities and fitness of participants • Avoid situations where you are alone with people you do not know • Do not go to houses or undertake surveys alone • Medical conditions should be known and provided when appropriate. An emergency plan may need to be known by others. |
| | Places | | <ul style="list-style-type: none"> • Appropriate permissions for access are obtained • Access to areas of cultural or spiritual significance is assessed, permission obtained and all protocols respected |
| Travel | Political instability | | <ul style="list-style-type: none"> • Travel Policy • International Travel Risk Assessment and Plan • Field trip plan completed • International SOS services |

| | | | |
|-----------------------------|-----------------------------------|--|--|
| | Insurance and health | | <ul style="list-style-type: none"> • Travel insurance in mandatory • Vaccinations are up to date for the area |
| Vehicles and traffic | Land vehicles | | <ul style="list-style-type: none"> • Be aware that beaches are legally defined as roads and vehicles may be present. Standard NZ laws apply; seatbelts, speed limits (beach specific), wof and rego. • No alcohol or drugs are to be consumed while the driver is in control of the vehicle • Vehicles to be used on field activity are only to be driven by staff with the licence classification appropriate for the type of vehicle and number of passengers |
| | Driving on beaches | | <ul style="list-style-type: none"> • Exercise due caution when driving on beaches, carefully noting tides and being on the watch for freak waves. • It is highly recommended that 4-wheel drive vehicles are used on beaches, equipped with high jack, spades, and an extraction stop. • If driving on dunes, the driver must have attended a certified off-road driving course. |
| | Vehicular traffic –roads and rail | | <ul style="list-style-type: none"> • Minibus or Highlander with authorised and trained members of staff • Rental vans with drivers provided • Special attention is required when crossing traffic, especially with large groups • Never cross roads or railway lines on bends • Do not walk on railway lines |
| Working after-hours | | | <ul style="list-style-type: none"> • After-hours work needs to be approved by supervisor and Technical Manager • Generally no field work after dark • Equipment left running after hours must have approval from Technician in Charge first. Green work slip displayed at all times. • Appropriate expertise is available for supervision • Relevant ENV safety guides are read, understood and followed |
| | | | <ul style="list-style-type: none"> • |
| Working around water | Deep water | | <ul style="list-style-type: none"> • Assess site for dangerous conditions and avoid as necessary. |

| | | | |
|--|----------------------------|--|--|
| | | | <ul style="list-style-type: none"> • Relevant ENV safety guides are read, understood and followed |
| | Currents/ Rips/ Holes | | <ul style="list-style-type: none"> • Keep participants away from water unless necessary. • Relevant ENV safety guides are read, understood and followed |
| | Waves | | <ul style="list-style-type: none"> • Ensure participants working in the water are capable of managing the conditions. • Ensure all participants in the water are monitored from shore by a capable and equipped observer (preferably a qualified lifeguard). • Ensure observer is equipped with a rescue tube and fins where appropriate. • Ensure a rescue plan is in place for all water based work including a means to call emergency services. • Keep all in-water activities clear of active rip currents and their associated feeder currents unless there is lifeguard support available. • Relevant ENV safety guides are read, understood and followed |
| | Freak (infragravity) waves | | <ul style="list-style-type: none"> • These waves can appear rapidly and wreak havoc at times by inundating a beach even to above high spring tide level • Be ever wary of these waves and their potential impact on your activity and participants. • Relevant ENV safety guides are read, understood and followed |
| | Tides & Daylight | | <ul style="list-style-type: none"> • Plan all activities carefully around the tide and daylight to avoid getting stranded or caught out. • Ensure all in-water activities are completed well within daylight hours as any potential rescue efforts will be severely hampered in the dark. • Assign a person to keep an eye on tides • Relevant ENV safety guides are read, understood and followed |
| | Being stuck in mud | | <ul style="list-style-type: none"> • Be wary of tidal stage when working on mud flats as people have drowned by being stuck on an incoming tide. • Groups should proceed in single file when mud is over knee deep. • Take a rescue rope (~20 metres) to assist with extracting stuck people. • Relevant ENV safety guides are read, understood and followed |
| | Sea creatures | | <ul style="list-style-type: none"> • Learn of creatures specific to your field site and how to manage them • Stay a safe distance away from potentially dangerous marine animals • Be wary of jellyfish and other poisonous sea creatures • Wear appropriate gloves, booties, wetsuits or nylon stinger suits • Do not prod or poke at potentially dangerous animals |

| | | | |
|---------------------------|-------------------------------|--|---|
| | | | <ul style="list-style-type: none"> • Never put your hands in dark holes or crevasses • Take care when wading in intertidal areas – shuffle your feet noisily to allow creatures such as stingrays to move away in time • Relevant ENV safety guides are read, understood and followed |
| Working at heights | Falling from cliffs or scarps | | <ul style="list-style-type: none"> • Avoid working near cliff or scarp edges especially on unstable ground or in stormy or windy conditions • Any cliff work with a potential fall over 2 or 3 metres above ground needs to be considered as height work and use of appropriate equipment (e.g., a ladder or abseiling equipment) is a requirement • Fall protection: <ul style="list-style-type: none"> ○ Handrails and barriers ○ Elevated work platforms ○ scaffolding ○ edge protection • Fall arrest and anchor point systems • Standard Operating Procedures • Height safety training • Fall arrest training and recovery team (Emergency Plans) • Accessing heights under suitable weather conditions (e.g. not raining and little/no wind) • Restricted access and entry points • Elevated work platform training • Equipment testing • Step ladders available to staff when needed. • Appropriate expertise is available for supervision • Relevant ENV safety guides are read, understood and followed |
| Working outdoors | Hypothermia/hyperthermia | | <ul style="list-style-type: none"> • Monitor weather forecasts and dress appropriately. • Use appropriately fitting wetsuits if working in water • Monitor colleagues for signs of hypothermia/hyperthermia and treat accordingly. • Relevant ENV safety guides are read, understood and followed |
| | Heat exhaustion/ heat stroke | | <ul style="list-style-type: none"> • Monitor colleagues for signs of heat exhaustion and treat accordingly. • Keep drink fluids regularly |

| | | | |
|--|---|--|---|
| | | | <ul style="list-style-type: none"> • Relevant ENV safety guides are read, understood and followed |
| | Dehydration | | <ul style="list-style-type: none"> • Take enough water to last the trip, drink regularly to keep hydrated. • Monitor colleagues for signs of dehydration and treat accordingly. • Relevant ENV safety guides are read, understood and followed |
| | Sunburn | | <ul style="list-style-type: none"> • Wear appropriate protective gear - shirt, sunscreen, hat, sunglasses and make sure to seek shade when able. • Relevant ENV safety guides are read, understood and followed |
| | Cuts and abrasions from shells, rocks, glass | | <ul style="list-style-type: none"> • Wear suitable footwear or gloves as appropriate • Tend to injuries quickly and thoroughly and monitor for signs of infection • Relevant ENV safety guides are read, understood and followed |
| | Slipping and falling on rock platforms or other slippery surfaces | | <ul style="list-style-type: none"> • Wear suitable footwear • Spills cleaned up properly • Avoid walking on wet or slippery surfaces where possible • Good lighting when walking • Relevant ENV safety guides are read, understood and followed |
| | Falling debris or landslides | | <ul style="list-style-type: none"> • Avoid working close to cliffs unless absolutely necessary • Hard hats must be worn when working next to cliffs or scarps • Do not work directly above or below any other person • Relevant ENV safety guides are read, understood and followed |
| | Lone working | | <ul style="list-style-type: none"> • Should be avoided for fieldwork if possible. In some circumstances it will not be allowed • All lone work is backed up by a strong field work plan and communication protocols • Relevant ENV safety guides are read, understood and followed |
| | Uneven surfaces | | <ul style="list-style-type: none"> • Careful footing at all times • Take note of where you are walking and the path you wish to take |
| | Smoke, dust, fog | | <ul style="list-style-type: none"> • Avoid walking in smoke, dust or fog |
| | Fences | | <ul style="list-style-type: none"> • Don't climb fences into areas you are unsure of • Use gates or styles to climb fences if possible • Do not climb on wires, if you need to climb then find a sturdy corner post • Be careful of electric or hot fences |

| | | | |
|------------------|--------------------|--|--|
| | | | <ul style="list-style-type: none"> • Cross fences one person at a time |
| | Climbing | | <ul style="list-style-type: none"> • Do not attempt to climb cliffs, trees or anything else that you could fall from • The use of binoculars is encouraged |
| | Digging/Trenching | | <ul style="list-style-type: none"> • Dial and look before you dig • Gain owner/operator permission before you dig |
| | Accessing property | | <ul style="list-style-type: none"> • Make sure you have all required permits and have spoken to land owners, authorities or Iwi. |
| | | | |
| Workshops | Workshop equipment | | <ul style="list-style-type: none"> • Guarding and engineering controls • Emergency stops • Training and supervision • Restricted access • Scheduled maintenance • Standard Operating Procedures • Tag Out Procedures • Personal protective equipment • Waste removal • Removal of decommissioned plant • Appropriate expertise is available for supervision • Relevant ENV safety guides are read, understood and followed |