The *Field work guidelines* have been developed to support the [Health & Safety: Off campus requirements](#).
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1. INTRODUCTION

The following guidance material has been prepared to assist staff and students meet University of Melbourne procedural requirements and regulatory requirements for the OHS management of field work. The guidance is divided into the following sections:

- Risk assessment
  This section provides guidance on:
  - field work activities that have been assessed with a risk rating of medium and above (see Table 1)
  - general principals of risk assessment associated with field work; and
  - field work plans.

- General requirements
  This section provides guidance on health and safety requirements that should be considered for all field work and associated field work plans.

- Guidance material
  This section provides guidance on health and safety requirements that may be required for some field work. The health and safety requirements should be included for relevant field work and associated field work plans.

2. RISK ASSESSMENT

2.1 Field Work Table

Table 1 lists examples of field work activities that have been assessed with a risk rating of medium and above. These activities contain risks that if not effectively controlled and managed may lead to incidents resulting in serious injury or death. Therefore risk assessments and field work plans must be developed for these activities.

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Table 1: Field work with a risk rating of medium to very high

There will be other field work activities not listed in Table 1 that will also have a risk rating of medium and above. Similarly risk assessments and field work plans must be developed.

Where the activity is assessed as low, a field work plan is not required as the controls can be included in the risk assessment. If the activity is assessed as medium and above then a field work plan must be developed.
2.1.1 Further Information

Health & Safety: Off campus requirements

Health & Safety - Undertake travel and off campus activities

Safety topics: Travel and off campus work

2.2 Field Work Risk Assessment

A field work risk assessment determines whether there is a risk to staff or students’ health and safety from participating in field work. All staff and students who engage in field work and their associated activities must be aware of the associated hazards/risks and the controls that have been put in place to mitigate or reduce the risks.

The field work risk assessment should be available to all participants and other relevant personnel (such as the approver of the field work).

A field work risk assessment consists of the following steps:

- determine who shall complete the risk assessment;
- identify the hazards;
- assess the risks;
- control the risks; and
- review the risk assessment.

Risk assessments are entered and stored into the Enterprise Risk Management System (ERMS). A University username and password is required to access ERMS via the Staff Hub.

https://auth.unimelb.edu.au/login/pages/login.jsp

Hard copy field work risk assessment forms are available where access to ERMS is not available. These can later be transposed to ERMS. Refer to Field work risk assessment form.

2.2.1 Determine Who Shall Complete the Risk Assessment

It is important that staff completing and/or authorising a field work risk assessment are competent and familiar with both the:

- risk assessment process; and
- proposed field work.

2.2.2 Identify the Hazards

As with all risk assessments the field work risk assessment must identify the hazards associated with the activity. There may also be additional considerations to be included during the hazard identification, such as transport arrangements required to get to the field work location.
2.2.3 Assess the Risks

The University of Melbourne risk assessment methodology provides a two variable matrix for assessing/analyzing risks.

Refer to: Health & Safety: Risk matrix and definitions

Raw Risk Rating

The raw risk rating represents the level of risk associated with an activity before controls have been implemented to reduce the risk. Determine and record the likelihood and consequences risk rating.

Residual Risk Rating

The residual risk rating represents the level of risk associated with an activity after the controls have been implemented to reduce the risk. The residual risk rating is calculated using the same methodology as the raw risk rating.

2.2.4 Control the Risks

The hierarchy of control describes the ranking method for controlling risks from the highest level of protection and reliability to the lowest. It is order as:

- elimination
- substitution
- isolation/engineering
- administrative
- personal protective equipment (PPE)

The Hierarchy of Control is used when determining the most appropriate manner for controlling risks associated with field work. Generally a combination of controls will be required; nevertheless the higher the level of control the more effective it will be. Refer to the scenario in the call out box.

2.2.5 Review the Risk Assessment

Field work risk assessments, including the effectiveness of the controls, should be reviewed. The timing of the review can be based on the level of risk associated with the field work. For example if the field work has been assessed with a high rating it may be reasonable to review the controls during the field work. It may be more practicable to review other risk assessments at the completion of the field work.
2.2.6 Further Information

Health & Safety: Risk management requirements

Health & Safety: Risk assessment methodology

Health & Safety: Risk matrix and definitions

2.3 Field Work Plan

A field work plan should be developed for activities that are:

- listed in the field work table (Table 1); or
- assessed with a raw risk score of medium and above.

The field work plan lists all health and safety requirements for the activity and the accompanying risk assessment should be attached.

Field work plan

2.3.1 Field Work Plan Sections

The following is a recommended outline for a field work plan.

Section 1: Details

This section provides a description of the field work/activity and allocates a responsible person for the field work/activity and the participants. It also details the itinerary and a participant’s medical fitness.

Section 2: Support Systems and Safety Requirements

This section details safety requirements and support systems necessary throughout the field work. The following is a list of some support systems:

- transport
- communication and navigation
- food and water
- legal compliance

Section 3: Emergency Plan

This section details the procedures that will be commenced in the event of an emergency, including emergency contact members, next of kin and emergency protocols.

Section 4: Risk Assessment and Controls

This section includes a copy of the field work risk assessment.

Provide the ERMS reference number and name of the Field work risk assessment (see Section 2.2) or attach a copy of the field work risk assessment if not entered into ERMS.

If a reliable University server connection cannot be guaranteed, download a hard copy of the risk assessment in ERMS and attach to the field work plan.

Participants should be briefed and be familiar with the plan and risk assessment, prior to the field work.
3. GENERAL REQUIREMENTS

Staff members (or other persons) responsible for leading field work must be competent or have made provision for competent personnel with regards to the activities been undertaken. Competency includes the training, skills, knowledge and experience required to carry out the activity safely.

Training/competency needs for specific activities are discussed throughout this guidance material and appropriate sections should be referred to. Managers/supervisors or other personnel arranging field work are advised to contact the local Health and Safety Business Partner if they are unsure of training requirements.

The person in charge of field work should ensure that appropriate safety arrangements are organised in advance. Such arrangements should include:

- completing a field work risk assessment;
- completing relevant sections of the field work plan for activities with a medium and above risk rating;
- training/instructing participants (where required);
- providing required safety information and equipment;
- distributing travel plans (eg an itinerary), Field work plans, highlighting safety and emergency procedures;
- providing appropriate competent supervision/surveillance for the activity;
- ensuring appropriate permits and licenses are acquired for the activity (eg explosives, firearms, entry to railway land, collecting native flora/fauna).

3.1 UniTravel

Field work that requires the travel to be booked, is organised through UniTravel.

A University username and password is required to access UniTravel via the Staff Hub.

https://auth.unimelb.edu.au/login/pages/login.jsp

3.3.1 Further Information

Health & Safety: Off campus requirements

UniTravel via the Staff Hub

3.2 Isolated Field Activities

Where ever possible field trips should be attended by two or more people. It is preferable that at least three people attend so that if an incident, injury or illness occurs, one person is available to attend the injured party while another person notifies emergency services.

Project study sites can be chosen that require work in the same area as another student or staff member, allowing them to accompany each other.

Where a person is required to work alone particular attention should be given to the communication requirements and developing a communication plan in the event of an emergency.
3.2.1 Further Information

Commission for Occupational Safety and Health (WA) – Guidance Note Working Alone

Australian Government. Comcare (Cth) – Guide to Remote or Isolated Work

Health & Safety: Working in isolation requirements

Health & Safety - Working in isolation

3.3 Field Work Briefing

Field work participants may be required to attend a field work briefing (or provided with a field work information pack) before starting the field work.

The briefing should include:

- the completed risk assessment for the field work/activity;
- the itinerary;
- the emergency procedures and plans;
- the first aider(s) attending the field work;
- the general safety guidelines, including:
  - acting lawfully at all times;
  - following all regulatory and advisory signage and traffic regulations;
  - following all explicit directives from staff members in charge, site controllers and transport operators (e.g., bus drivers);
  - following all other instructions as given by staff or workers on site that do not conflict with the above; and
  - the rules relating to alcohol, tobacco and other drugs.

Specific information regarding safety aspects of the activity should also be discussed during the field work briefing (or included in the information pack) including:

- minimum dress requirements, and
- correct maintenance and use of safety equipment.

Written procedures should accompany the briefing (or included in the information pack), including:

- the field work plan;
- the guidelines and/or safety procedures relevant to the activity being undertaken, e.g., use of equipment or vehicles; communication protocols; and
- the emergency contact numbers and protocols.
Participants may also be provided with information detailing:

- organisational arrangements, including information about field site, travel, personnel, weather;
- practical requisites for the activity including: clothing, sun screen, insect repellent, sunglasses, footwear, weatherproof coat, water bottle.

4. GUIDANCE MATERIAL

Environmental factors can include such things as weather conditions/seasons, the location of the field work, the accessibility of the field work, the terrain (eg flat or mountainous), land or marine based, the flora and fauna and so on.

4.1 Environmental

4.1.1 Tides and Weather

Seasons

Consideration should be given to the type of field work and the appropriate season. For example (unless it is a requirement of the field work) remote field work should not be arranged during seasons with expected extremes of weather such as snowfall regions in the winter or forested regions in the summer where there is an additional risk of bush fire, flooding, cyclone etc.

Fire warnings and restrictions should be monitored for rural activities that are planned during the summer season (fire season). Particular attention should be paid to days of total fire ban and for days of extreme fire danger and “code red”. Consideration should be given to delaying or finding an alternative location for field work scheduled during these times.

Local Conditions

Local conditions should be determined prior to any field work and then monitored throughout the activity. Sudden changes in weather must be taken into consideration and appropriate equipment included to account for these changes.

Tidal and coastal conditions should be determined prior to undertaking field work. Given that the coastal environment and tides can change rapidly, conditions should be monitored throughout the activity.

4.1.1.1 Further Information

Country Fire Authority (CFA) – Total Fire Bans and Ratings
Country Fire Authority (CFA) – Warnings and Incidents
Coastal Watch – Coastalwatch
Bureau of Meteorology – Latest Coastal Weather Observations for Victoria

4.1.2 Diving/Swimming/Snorkeling

General

Participants must be able to swim and demonstrate their ability to the staff member in charge before attending the field work.

During aquatic field work where strong currents or wave action are present, safety lines must be carried and used when appropriate.
Staff or students working in streams or treatment plants where there is a risk of infection or disease caused by sewage-contaminated water should be vaccinated against typhoid and hepatitis. Further advice should be sought from the local Health and Safety Business Partner or email: occupationalhealth-info@unimelb.edu.au.

**Risk Assessment Checklist**

Prior to commencing the field work, the staff member in charge should conduct a risk assessment of the area and document hazards, changes to expected conditions and how they should be reasonably dealt with.

A checklist must be completed before initiating any activity to ensure that the following considerations are appropriately accounted for:

- wave height and direction are appropriate
- tide is appropriate for the location
- rips and currents are identified and accounted for
- wind direction and strength are appropriate for the planned activity
- access and egress are clear in case of an emergency
- sand bars are safe and/or appropriately considered to minimise risk
- other users are appropriately accounted for (including watercraft)
- risk of entanglement (fishing lines etc.) is accounted for
- risk to the environment can be appropriately minimised

**Diving**

All diving field work must be carried out to meet the requirements of the diving Standards (AS/NZS 2299 (series). In particular AS 2299.2 provides specific information on the requirements for single divers, use of a tethering system, a stand-by diver and a diver’s attendant.

With regards to AS 2299.2 and where reasonably practicable diving field work should be carried out in groups of three or more. The number of people should be determined by the type of diving field work and the level of associated risk. The “buddy” system for diving is the preferred method where divers are allocated a partner.

The staff member in charge of the diving field work must be familiar and with the Scientific diving requirements including the training requirements and license of supervisory staff and participants.

4.1.2.1 Further Information

Outdoors Victoria – Adventure Activity Standard: Snorkeling, SCUBA Diving & Wildlife Swims

WorkSafe Victoria – Occupational Diving

AS/NZS 2299.1: Occupational Diving Operations – Standard Operational Practice

AS/NZS 2299.2: Occupational Diving Operations – Scientific Diving

AS/NZS 2299.3: Occupational diving operations – Recreational industry diving and snorkeling operations

AS/NZS 2299.4: Occupational diving operations – Film and photographic diving

Health & Safety: Scientific diving requirements
4.1.3 Boating/Canoeing/Kayaking

General

Participants in field work in marine, stream or lake environments, where the work is carried out in deep water, must be able to swim strongly and wear an approved personal flotation device (PFD).

If swimming is required during the field work or there is likelihood that a participant could fall into the water, participants must demonstrate their ability to swim to the staff member in charge before attending the field activity.

Boating

The staff member in charge must comply with the Victorian Recreational Boating Safety Handbook.

Before use, the staff member in charge must ensure that the boat contains at least the minimum requirements of safety equipment as specified in Victorian Recreational Boating Safety Handbook. The equipment taken must include; personal floatation devices, flares (open water field work), first aid kit, life lines, navigation equipment and communication. All equipment must be in good working order and readily accessible at all times.

Except for large ocean-going vessels, staff members or students on board boats must wear an approved personal floatation device (PFD) when directed to do so by the staff member in charge or by the person in charge of the vessel.

Participants must wear appropriate protective footwear and clothing.

As a minimum at least two people must be onboard.

Staff members or students working from a boat should reconsider wearing waders. If waders are required then wader safety training should be completed prior to the activity (See section 4.3.5 for further guidance).

The number of people carried by the craft must comply with the limits recommended by the Marine Board of Victoria when operating in Victorian waters. For legal requirements interstate refer to the relevant authority in that state.

Communication and navigation systems must be carried that are appropriate to the field work and location. Backup systems in case of failure should also be carried such as UHF and VHF radio.

Any issues associated with the craft, eg lost equipment during use or leaks must be reported to a designated person immediately on return from the trip.

Boat Training/License

All staff members or students who operate a motorised boat in Victorian waters must hold a current general boat operator license (or equivalent or above). Local regulatory requirements apply in other jurisdictions.

One of the staff members or students participating in the field activity must have either received training or had extensive experience in the use of the craft. This person must check the ‘seaworthy’ condition of the craft, the engine reliability and the fuel supplies before setting out where applicable. Advice on local rules, local conditions and weather forecasts must be obtained before each outing.

Distress Flares

When operating on coastal waters, all craft are required to carry approved, current distress flares.

The person in charge of the vessel must ensure that everyone on the craft knows the location and operation of the distress flares.
Distress Beacons

Whilst not compulsory, under certain maritime conditions an emergency position indicating radio beacon (EPIRB) is strongly recommended. For boats that are traveling more than two nautical miles off shore an EPIRB is mandatory. Some sporting clubs and associations also enforce the use of EPIRB.

Personal Locator Beacons (PLB) are not a replacement for an EPIRB but an additional emergency feature.

Also refer to Section 4.10.3 Distress Beacons.

4.1.3.1 Further Information

Transport Safety Victoria – Maritime Safety


Outdoors Victoria – Adventure Activity Standard – Canoeing and Kayaking

Australian Maritime Safety Authority

4.1.4 Campsite

General Requirements

The person leading the field work is responsible for ensuring that adequate supplies of water, food, oil and fuel are carried.

The person leading the field work must ensure that permits required and/or permission for access to an area of the activity (eg to work in National Parks, on railway land, for use of firearms, explosives) are obtained before leaving for the activity.

Selection of the Campsite

Select a campsite that is flat, sheltered from the wind, but away from hazards such as dead trees and overhanging branches.

The campsite should be an easy walking distance from a water supply, and upstream from any pollutants.

Ensure that toilet areas are at a distance away from the camp to eliminate contamination and ensure that everyone knows the location of these designated areas.

Build on a site that is higher than the maximum flood level, as shown by the flood debris in trees.

In Camp

Pitch tents appropriately for the prevailing weather conditions. For example:

- where possible avoid camping under trees, especially during windy periods;
- dry flat areas away from marshy, boggy areas and creek beds; and
- areas that offer a natural wind break in windy conditions.

Ensure that all participants have a minimal impact on the environment and on other groups with whom they may be sharing the campsite.
Fire safety

Fires and open fireplaces must be used in accordance with the requirements of the local fire authority or local land management authorities.

After ensuring that fires are permitted:

- where possible place the fire in an existing fireplace and keep it small;
- build the fire in an open area, downwind from tents;
- leave a three meter clearance from overhanging branches, flammable ground material, logs, stumps and trees;
- if not using an existing fireplace, build the fire in a trench at least 30 cm deep; and
- before leaving the campsite, completely extinguish the fire with water so that it is cool to the touch (do not extinguish with sand or dirt).

Stoves and cooking should be in a designated cooking area to minimise movement near stoves.

Never leave fires unattended.

4.1.4.1 Further Information

Forest Fire Management Victoria – Walking and Camping
Forest Fire Management Victoria – Visiting State Forests
Country Fire Authority (CFA) – Total Fire Bans and Ratings

Also refer to Section 4.1.1.1.

4.2 Flora and Fauna

4.2.1 Venomous Animals, Disease Vectors and Plants

Exposure to venomous animals, disease vectors and plants likely to cause allergic reactions should be avoided as far as possible. Participants must be informed if there is a risk of exposure and should take steps to minimise risk (eg wear appropriate clothing, apply insect repellent, carry antihistamine medications).

4.2.2 Vaccinations

Participants undertaking field work may require immunisation. Further advice should be sought from the local Health and Safety Business Partner or email: occupationalhealth-info@unimelb.edu.au

4.2.2.1 Further Information

HealthDirect – Insect Bites and Stings
HealthDirect – Sea Creature Bites and Stings
NSW Government Health – Avoiding Tick and Spider Bites

Australasian Society of Clinical Immunology and Allergy (ASCIA)
4.3 Plant and Equipment

4.3.1 Plant and Equipment (Other than Safety Equipment)

Where plant and equipment is required for field work (e.g., tractor, chain saw) the person in charge must ensure that the:

- plant and equipment is maintained and in a safe working condition, including appropriate guarding and safety features;
- plant and equipment has current risk assessment outlining the hazards and controls required to use the plant safely;
- plant and equipment has current standard operating procedure (SOP)

People operating/using plant and equipment must be fully trained and/or provided instruction, such as familiarisation with the SOP and supervised practice.

Factors to be considered when laying out/choosing a site for plant include:

- workplace layout and general environment, including conditions underfoot;
- size, surface characteristics, shape, stability and weight of objects;
- vertical and horizontal movements involved; and
- work postures and space requirements.

4.3.1.1 Further Information

Health & Safety: Regulated plant requirements

4.3.2 Electrical

All electrical equipment must comply with the requirements of the University of Melbourne’s procedures. Particular attention must be given to:

- testing and tagging of all electrical equipment; and
- safe storage.

Electrical equipment will require the same controls as outlined in Section 4.3.1. This will include:

- training and/or instruction;
- risk assessments;
- standard operating procedures

4.3.2.1 Further Information

Health & Safety: Electrical inspection and testing requirements

Safety Bulletin 17/04: Electrical testing and tagging
4.3.3 Personal Protective Equipment (PPE)

Field work may require the use of personal protective equipment (PPE). Examples include:

- **Safety vests**
  Brightly coloured vests with reflective surfaces. Safety vests must be worn where visibility is a safety risk (eg anywhere near roads or traffic).

- **Hard hats**
  Hard hats must be worn where there is a risk of head injury (eg falling objects, low headroom).

- **Safety glasses or goggles**
  Safety glasses or goggles must be worn where there is a risk of eye injury.

- **Hearing protection**
  Hearing protection must be worn where there is a risk of noise-related injury.

- **Respiratory protection**
  Respiratory protection must be worn where there is a risk of respiratory-related injury (eg exhaust fumes in tunnels or droplet infection in sewers).

- **Safety footwear (see Section 4.3.4)**
  Some activities may require safety footwear, such as caving and mineral exploration.

Requirements of PPE use include:

- approved design (such as the Australian Standards);
- suitable quality for the conditions to be encountered during the field work; and
- inspected and maintained regularly. The person in charge of the field work must ensure that all safety equipment has been inspected and undergone maintenance before commencing an activity.

**PPE Training**

Staff and students required to use PPE must be provided with training and instruction in appropriate use and maintenance of the PPE.

**Essential Safety Equipment**

On field activities, certain clothing and equipment may be considered essential for personal and group safety. The staff member in charge of the field work must ensure that all participants are aware of the possible neglect of the duty of care principle should they allow a person to take part in field work without essential safety equipment (eg safety glasses, hats) where the wearing of such equipment has been advised as essential.

Before the field work commences essential safety equipment must be checked to ensure that it fits correctly.

Training in the use of safety equipment must be given before the field work commences.

4.3.3.1 Further Information

Health & Safety: Personal protective equipment requirements
4.3.4 Protective Footwear and Clothing

It is the responsibility of individual students, members of staff and volunteers to ensure that adequate protection for the environment is used.

Footwear

Bare feet, thongs and sandals provide no protection to dropped objects, sharp objects or collision and in many cases, will provide less than adequate grip.

The minimum standard of footwear appropriate for a range of situations would be:

- immersion in water – waders (preferably with a boot-like sole pattern), thick-soled sport shoes (eg runners) or wet-suit boots;
- wet conditions - gumboots or solid boots;
- work sites - solid boots (safety footwear);
- other situations - thick-soled sports shoes as a minimum.

Clothing

Examples of the minimum clothing requirements for a range of situations would be:

- Outdoors
  Hat, sunglasses, lip screen and sun screen, for protection against ultraviolet radiation (all seasons)
- Cold, wet and windy conditions
  Rain/windproof jacket where appropriate. A change of clothing should be carried if a person is likely to become wet. Cotton clothing may not provide sufficient protection to maintain body warmth, particularly when wet. Wool or polar fleece is recommended, together with thermal underwear.
- Bush land
  Long sleeves and trousers would be appropriate when there is a risk of abrasion, being scratched from low-lying shrubbery, snake or insect bite or sunburn.
- Aquatic field activities
  Wetsuit for aquatic activities. Also booties or other suitable footwear for walking in tidal zones and over rocks.
- Machinery and plant
  Loose, baggy clothing and ties can be dangerous around machinery as they can become entangled. Well-fitting and secured clothing that covers the torso would be appropriate. Long hair and jewelry can become entangled in machinery with dangerous results. Hair can be tucked into caps or hairnets and jewelry must be removed or safely relocated.

4.3.4.1 Further Information

Health & Safety: Personal protective equipment procedure

4.3.5 Waders

Staff members or students who use waders in deep water (above knee height) during field work must be able to demonstrate their swimming ability or, alternatively, wear an approved PFD.
Where waders are worn, unless designed to behave as a floatation device (for example neoprene waders), they must be quick-release and easy to remove if the wearer falls into the water. Safety equipment should include a wader belt, a rescue rope and (where applicable) a personal floatation device.

When alone, a staff member or student wearing waders may only enter the water if it is shallow (less than knee deep).

Two or more people must be present if the depth of the water will be greater than knee deep:

- Before entering the water, other members of the field work must be notified.
- Staff or students must leave the water if the depth reaches waist deep or if a strong current is flowing. In this case sampling must be conducted from a boat or when the water level falls.

Staff members or students working from a boat should reconsider wearing waders. If waders are required then wader safety training should be completed prior to the activity.

It is also recommended that inexperienced staff or students try out the waders at a local pool before using them in the field. The aim is to familiarise wearer with the problems associated with waders filling with water and to give them experience in staying afloat.

4.3.5.1 Further Information

Agriculture Victoria – Wader Safety Training for Anglers

Centre for Maritime Safety – Waders - General Safety Note

4.3.6 Firearms

Licensing and safety requirements regarding the use of firearms are strictly controlled within Victoria and throughout Australia. For specific requirements within Victoria refer to Section 4.3.6.1.

For legal requirements interstate refer to the relevant authority in that state.

Importing firearms into Australia is overseen by the Australian Customs Service and specific requirements should be sought from this authority.

4.3.6.1 Further Information

Agriculture Victoria – Victorian Codes of Practice for Animal Welfare

Victoria Police – Firearms

Victoria Police – Firearms Safety Code Booklet

4.4 Chemicals

Use of chemical substances during field trips is very common. In many instances these chemicals will be supplied and/or bought by the University of Melbourne.

The person in charge of the activities that include the use of chemicals must ensure that they are familiar with university procedures regarding the use, storage and transport of chemicals. In particular staff must ensure that they have safety data sheets (SDS) for all chemicals that will be used during the activity.
Some chemicals that may be commonly taken on outdoor activities will include:

- fuel (eg petrol or diesel)
- kerosine
- LPG (eg gas bottles)

Clearly identifying all chemicals that will be used during an outdoor activity is essential as it could affect or place additional requirements on planning such as emergency requirements, PPE and environmental impact.

The first aid needs of the chemical use should also be taken into account.

### 4.4.1 Further Information

**Health & Safety: Chemical management requirements**

**Chemical management guidelines**

### 4.5 Manual Handling

Manual handling occurs in a variety of situations for example changing vehicle tyres, carrying rock samples, handling equipment, carrying packs and so on. Consideration should be given to eliminating manual handling where possible. In all cases materials handling equipment should be provided to reduce the amount of lifting required. Participants must be instructed in the correct methods of lifting and the use of different tools for each job.

#### 4.5.1 Prevention of Hand Injuries

Cuts, bruising and crush injuries to hands and fingers can be reduced by:

- training in the correct methods for using hand tools;
- using the right tools for the job;
- maintaining hand tools in good clean condition;
- providing guards on moving machinery;
- using the right gloves to suit the job.

#### 4.5.2 Manual Handling and Lifting

Training for manual handling should include information on:

- the effects of lifting, stretching, twisting and bending on the body;
- correct posture and lifting techniques;
- arrangement of work and storage areas to reduce risks from manual handling;
- methods of team lifting;
- use of aids to improve lifting safety;
- personal protective equipment.
Where ever possible materials handling equipment should be used. These can include:

- small hoists on the back of utilities and tray top vehicles;
- tools for moving, lifting and opening fuel drums;
- sharp crowbars to act as levers;
- carrying frames to assist better posture;
- stands and platforms for stacking equipment;
- trolleys, hand trucks and forklifts;
- automatic rod handling on drill rigs.

It is important that common general principles are used to reduce the incidence of sprains, strains and general musculoskeletal injuries from manual handling.

- For major tasks or long-term activities, it is advisable to:
  - identify the manual handling tasks likely to be a risk;
  - assess the risk by standard risk assessment procedures which analyse all aspects of the job;
  - control the risk by job redesign, use of mechanical equipment, and proper training.

### 4.5.2.1 Further Information

**Health & Safety: Hazardous manual handling requirements**

### 4.6 Transport

#### 4.6.1 Bus Hire

Whenever possible buses or coaches should be used to transport large numbers of students on field work. Within Australia all buses or coaches hired or used should be fitted with seat belts.

Transport used must be accessible to participants with disabilities attending the activity.

The driver of the bus must have the appropriate license/permit. Where bus hire includes the driver, staff should ensure that hire is through a reputable company that can show that the bus driver holds the appropriate license/permit.

#### 4.6.2 Vehicle Use

University vehicles or hired vehicles should be used whenever possible. Private vehicles should only be used where an alternative is not available or not suitable.

The staff member in charge of the field work must ensure that each driver is appropriately licensed and suitably trained (see Section 4.6.3.) for the driving activity.

For long trips, where ever possible two or more drivers should be available.
A staff member approving the use of a private vehicle must ensure that:

- Drivers are aware of any special requirements, eg off-road driving;
- Drivers are aware that there are no university provisions for the insurance of private vehicles. The insurance of private vehicles is the responsibility of the owner;
- Drivers are aware that responsibility for the roadworthiness of the vehicle lies with the owner of the vehicle.

Vehicles must be checked before departure to ensure there is:

- adequate oil, water and fuel,
- inflated and road worthy tyres;
- a spare tyre (inflated) and tyre changing equipment;
- appropriate first aid kit; and
- where required, a fire extinguisher.

Carrying, spare radiator hoses and fan belts should also be considered.

The seat belts in all vehicles must be worn, properly adjusted and securely fastened by all students and staff.

Vehicles taken on activities must be appropriate for the conditions encountered, eg four wheel drive for off-road conditions.

4.6.3 Driver Training

Personnel driving four wheel drive vehicles off-road must have attended four wheel drive training course in the last 5 years.

Evidence of attendance at appropriate training course(s) must be held with a designated person in the academic/administrative unit.

4.6.4 Driving Guidelines

Planning the trip:

- Start a long trip in the morning, after a good night's sleep.
- Plan to drive at times you are normally awake; avoid driving late at night and very early in the morning.
- Plan time for rest breaks and to stop and rest overnight on long trips.
- Don’t travel for more than 8 hours in any one day.
- Avoid alcohol and medication that may cause drowsiness (check with your doctor) before and during the trip.

During the trip:

- Take regular breaks (at least every 2 hours). Get out of the car and walk around for a while.
- Share the driving when you can.
- Eat properly - not too much and not too little.
- If feel tired and sleepy, find a suitable place to stop and sleep as soon as possible.
- Where possible regularly rotate driving with other drivers.
4.6.5 Log Book

A record of the driving times and scheduled breaks should be recorded in a logbook for each trip.

4.6.5.1 Further Information

VicRoads – Fatigue & Road Safety

Agriculture Victoria – Fact Sheet: Driving Safely

Outdoors Victoria – Adventure Activity Standard: Four Wheel Driving

Health & Safety: Vehicle use requirements

4.7 Communication and Navigation

4.7.1 Minimum Communication Requirements

Select equipment appropriate to the terrain, transmission distance and atmospheric conditions under which operations are expected. This may include HF, UHF and VHF radios, satellite phones, mobile phones etc. Satellite phones, whether fixed, portable or vehicle mounted, are used extensively and provide considerably improved communications. In a similar manner to mobile phones, emergency contact numbers can be entered and saved into a satellite phone.

Communication must be provided between:

- groups/vehicles in the field and the main base camp;
- the main base camp and the academic/administrative unit at a nominated communications base; and
- the main base camp and emergency services.

Field personnel must make contact on a regular pre-arranged basis. It is highly recommended that daily contact be made with groups working in the field.

More than one person in each group must be trained in the use of the communications equipment carried with the group.

Make sure that battery chargers and/or enough fully charged batteries are available.

4.7.2 Communications Instruction

Instruction must be carried out before the field activity commences. This will ensure that personnel can operate the equipment and will provide a useful check as to the functioning of the equipment.

4.7.3 Types of Communication

Equipment provided must include two-way radio or portable telephone wherever possible. Examples of types of equipment and its use include:

Mobile phones

The effective coverage of mobile telephones in the area of the field activity must be checked before leaving for the trip.

NEW TECHNOLOGIES

There are new technologies and advances in communications coming on to the market.

Recent technologies have seen the introduction of a “sleeve” that attaches to an existing mobile phone converting it to a satellite phone.
Citizen Band (CB) radio (UHF, AM)
Under normal conditions the use of these radios is limited to a short range (7-10 km), eg the study area.

State-wide mobile radio
Network covers 97% of the state of Victoria, used by Country Fire Authority, Police, Department of Natural Resources & Environment:

- Can be both hand-held or vehicle mounted;
- Effective over 2-3 km distance between units; and
- Can use radio or make emergency phone calls.

Very high frequency (VHF) radio (Royal Flying Doctor Service)
If intending to use the Royal Flying Doctor Service, prior registration with the service is necessary. Features include:

- Range: approximately 600 km;
- Vehicle mounted, requires large antenna; and
- Appropriate for remote area usage.

Satellite phones
Whilst there is full coverage across Australia there may be some communication difficulties in gullies/ ravines or heavily forested areas.

SPOT device
A SPOT device (satellite personal tracker) can provide GPS messaging and your location via email, text message or emergency notification. It relies on satellites in the same way as satellite phones and may have similar limitations.

Radio handsets
Radio handsets are available for use in some National Parks. Individual rangers need to be contacted prior to the commencement of a field trip to ascertain their availability and to organise their use.

4.7.3.1 Further Information

Australian Communications and Media Authority (ACMA)
Bush Search and Rescue NSW (BSAR NSW)
The Australian National 4WD Radio Network – VKS 737

4.7.4 Marine Radio Communications
Marine radio distress monitoring services are provided by Coast Radio Melbourne on HF frequencies 4125 kHz, 6215 kHz and 8291 kHz.

Complementary services operate around Australia in a network of stations. These stations provide coverage in most Victorian waters.
4.7.4.1 Further Information

Transport Safety Victoria – Maritime Safety Victoria: Radio Operation

Australian Maritime Safety Authority – AMSA

4.7.5 Back Up Communications Equipment

Back up equipment such as spare radio, mobile phone, additional battery packs, EPIRB or flares must be provided in case equipment damage or failure occurs in the field.

4.7.6 Navigation Systems

Maps of suitable scale and navigation systems should be provided both for the group as a whole and for vehicles or small groups working away from the main group.

Back-up systems such as compasses should also be provided.

4.8 Food and Water

Safe handling, storage and preparation of food is essential to prevent the risk of food poisoning. Food naturally contains bacteria in small numbers. For food poisoning to occur, bacteria must have warmth, food and moisture. Food poisoning can be prevented if these conditions are avoided.

Common bacteria that cause food poisoning include:

- *Salmonella* – found in meat, poultry and eggs
- *Bacillus cereus* – found in cereals, rice, meat products and packet soup
- *Staphylococcus aureus* – meat, poultry, mayonnaise based salads and cream-filled desserts

4.8.1 Planning

The following factors must be considered in the planning for the field activity:

- number of people;
- length of trip/camp;
- facilities available, eg camp kitchen, refrigerator, freezers;
- availability of daily/weekly purchase; and
- transportation and storage of supplies to site, eg cold box in the vehicle.

Menus

When planning menus, the following should be considered:

- Water supply available in the field required for both for drinking and food preparation;
- Food storage facilities at field site.
- Special dietary requirements:

Drinking water must be stored and transported in containers kept solely for that purpose.

Special needs of students and staff should be discussed prior to the field activity.
Provision should be made for special dietary requirements in preparation of menus and in the purchase of supplies for the field activity.

Storage of supplies prior to the trip/camp:

- Foods should be suitable for the conditions and the facilities available;
- Food should be stored in a food only facility, not in a laboratory area/fridge/freezer.
- Food should be stored in containers used and kept solely for that purpose.

4.8.2 Preparation of food

A list of these requirements must be displayed prominently in the food preparation area. All those involved in food handling and preparation must be given instruction prior to assisting.

Look out for damaged food packaging. Do not use dented cans, leaking packages, cracked eggs, etc.

Wash hands thoroughly before preparing any food (see note on hand washing).

Cover any abrasions, cuts or skin rashes with a dressing and wear gloves.

Separate preparation of different types of foods, especially meats from other foods and raw from cooked foods.

Use separate utensils and chopping boards for raw meat and other food, eg keep one board for meat only (the board could be colour coded). If this is not possible, thoroughly wash and sanitise equipment between uses.

Cooked or ready to eat foods must be handled with utensils such as tongs, spoons or disposable gloves.

- Never touch food with gloves that have been used for cleaning.
- Any leftover food must be refrigerated immediately or disposed of.

Pest controls:

- Do not leave food uncovered prior to serving;
- Control flies, etc. in preparation area.

4.8.3 Hand Washing

All staff and students must wash their hands thoroughly (including backs of hands, wrists and under fingernails) using soap and water:

- before handling or preparing food
- before eating
- after the toilet
- after smoking
- after blowing nose
- after handling animals
- after handling rubbish

Disposable towels rather than cloth towels should be used to dry hands.
4.8.4 Waste Disposal/Cleaning

Benches and tabletops must be cleaned prior to use for preparation or eating.

Rubbish must be:

- contained in a sealed bag;
- removed from the preparation and eating areas as soon as possible; and
- placed into securely fastened bags or rubbish bins, which are away from preparation and eating areas whilst waiting for removal.

Washing of kitchenware:

- ensure adequate water is available;
- change the water during the washing up process; and
- wash chopping boards, utensils and plates separately.

Tea towels must be hung separately to dry in the fresh air after each use and washed regularly. Disposable cloths may be used. Floors in preparation and eating areas must be cleaned after each use.

4.8.4.1 Further Information

Food Standards Australia New Zealand

4.9 Legal Compliance

Legal compliance may include:

- licenses and/or special requirements specifically related to an activity. For example a person driving a boat on open water must have a boat license. In addition each person must have a personal flotation device and pyrotechnics (flares) must be carried.
- permits associated with access and/or activities within an area. For example special entry permit into National Parks/areas or lodging a remote location itinerary with a governing authority.

The person in charge of the field work should be familiar with the legal requirements associated with the field work and/or the location. Many legal requirements are outlined under relevant sections of this guide.

4.10 Emergency

4.10.1 Medical Preparedness

Staff and students who participate in country or remote field activities should be reasonably fit and have no existing condition that could reasonably be expected to give rise to a life-threatening situation in the course of the activities.

Medical Declaration

Staff and students will be required to complete a declaration outlining their fitness to undertake an activity.
Medical Concerns of Participants

If a staff member or student has any concerns regarding their medical status or fitness for an activity, they should consult their medical practitioner regarding the appropriateness of their participation.

Following discussions with the medical practitioner, the nature of the medical condition and its treatment may be discussed in confidence with the supervisor of the activity, with the permission of the staff member or student.

Staff and students with particular medical conditions that cannot be explained verbally in the case of an accident (e.g., allergy to penicillin) should wear 'medical alert' or similar bracelets, pendants, etc.

Prescribed Medication

Adequate supplies of any prescribed medication(s) required for the duration of the country or remote field activity must be taken. Approximately 1.5 to 2 times the normal supplies should be packed in case return from the activity is delayed. A first aider can assist in providing appropriate storage of the supplies, if necessary.

4.10.2 First Aid

First Aid Assessment

A first aid assessment for the field work should be undertaken. It should take into account not only the type field work, but also the location and conditions of the field work.

Include in the first aid assessment the:

- number and type of first aid kits
- first aider training requirements
- number of first aiders

First Aid Kits

All vehicles and caravans used on activities must travel with a first aid kit. Consideration should be given to providing individual participants with waist first aid kits.

The first aid equipment carried on activities must be limited to supplies that are necessary for reasonably foreseeable circumstances taking into account the competency of the first aiders. It must be reasonably portable (light and compact) so as to interfere minimally with the carriage of necessary research and camping equipment and supplies. It must be durable (case and packing) as it may have to withstand and remain clean in adverse conditions.

First Aiders – Training, Numbers and Competencies

First aiders on field work should be trained in the use of specific first aid equipment appropriate to the possible type of emergencies.

Activities should include as many first aiders as reasonably practicable. At least one participant should be trained as a senior first aider. A first aid risk assessment should determine the level of training such as:

- Provide basic emergency life support HLTAID002
- Provide First Aid HLTAID003
- Provide first aid in remote locations HLTAID005
Additional remote area first aid training is recommended for first aiders who will work in remote areas more than 25 km from medical help. Refer to Table 2 for the numbers of first aiders required with regards to location and party numbers.

| Field Trip in Locations Within 25 KM of Medical Help |
|---------------------------------|----------------------------------|
| Groups up to 9 people          | 1 person trained in Basic First Aid (Level 2) or higher |
| Groups of 10 to 30 people      | 2 persons trained in Basic First Aid (Level 2) or higher |
| Groups of over 30 people       | 2 persons trained in Basic First Aid (Level 2) or higher plus an additional person trained in Basic First Aid (Level 2) or higher, for every additional 30 people or part thereof |

<table>
<thead>
<tr>
<th>Field Trip in Locations More Than 25 KM from Medical Help</th>
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<tr>
<td>Groups up to 9 people</td>
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<td>Groups of over 30 people</td>
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Table 2: Numbers and competencies of first aiders on field trips

4.10.2.1 Further Information

Bush Search and Rescue NSW (BSAR NSW)

Health & Safety: First aid requirements

4.10.3 Distress Beacons

Emergency Position Indicating Radio Beacons (EPIRB)

Emergency Position Indicating Radio Beacons are used on boats for all maritime activities. They are designed to be waterproof and float. They can be activated during time of emergencies and will operate continuously for a minimum of 48 hours.

Whilst under certain conditions an EPIRB is not compulsory it is strongly recommended. For boats that traveling more than two nautical miles off shore and EPIRB is mandatory. Some sporting clubs and associations also enforce the use of EPIRB (eg Yachting Australia).

Personal Locator Beacons (PLB)

Personal Locator Beacons (PLB) are designed for personal use and can be used for many applications including:

- boating;
- four wheel driving; and
- remote field work.

They are not a replacement for an EPIRB but an additional emergency feature. Therefore they cannot substitute an EPIRB where it is a mandatory requirements.
An EPIRB and PLB can be registered with the Australian Maritime Safety Authority.

4.10.3.1 Further Information

Australian Maritime Safety Authority – Beacons

4.10.4 Emergency Procedures

All field work must include emergency planning.

The emergency plans must include:

- emergency protocols for personnel in the field, at the base camp and in the academic/administrative unit;
- emergency procedures for participants who have disabilities;
- communication protocols; and
- emergency services contact numbers for local emergency services and with the academic/administrative unit.

The person in charge of the field work must ensure that:

- there is an reliable 24-hour means of communication (Section 4.7); and
- there is an emergency plan.

4.10.5 Emergency Plan

As a minimum an emergency plan should include the following:

- trip plan/itinerary;
- emergency strategy/plan;
- participants’ emergency contact details;
- participants’ medical conditions that may be affected by the field work;
- emergency trigger time for nonparticipant to notify emergency services on failure to return;
- contact details, including how they are best contacted (eg telephone, HF radio) for key emergency organisations such as police, land manager; and
- where practicable, emergency access and emergency escape routes planned.

Consider appointing an assistant to the leader who is familiar with the requirements of the activity and has the ability to competently participate in emergency response procedures.

A copy of the plan must be carried during the field work and a copy kept with a nonparticipating contact.

Field work in remote locations and where personnel are working alone should have a pre-arranged contact time with a designated person not undertaking the activity. Where there is a failure to contact the designated person at the pre-determined time, emergency procedures should commence as soon as practicable.
4.10.6 Incident Reporting

All incidents should be reported as soon as possible to the supervisor/manager (or the person authorising the field work).

Incidents are entered and stored into the Enterprise Risk Management System (ERMS). A University username and password is required to access ERMS via the Staff Hub.

https://auth.unimelb.edu.au/login/pages/login.jsp

Hard copy of the Incident report form is available where access to ERMS is not available. This can later be transposed to ERMS.

University requirements Health & Safety: Incident, injury, hazard reporting and investigation requirements should be followed. This includes:

- entering the incident into Themis; and
- initiating an incident investigation.

4.10.6.1 Further Information

Health & Safety: Incident, injury, hazard reporting and investigation requirements

4.10.7 The Final Word

The topics and advice given in these guidelines are not exhaustive and there may be additional hazards and considerations that are not covered. For example:

- working at heights (eg rock climbing, tree climbing);
- plant or equipment that uses a radioactive source;
- explosives; and
- biological hazards.