

# Research Fieldwork Safety Guidelines

## Faculty of Science, Engineering & Built Environment



These guidelines are designed to assist with managing **safe research work in the field**. Additional information is provided in the [University OHS Manual](#).

Fieldwork safety documents are available on [SEBE's Health, Safety & Wellbeing site](#) accessible to all SEBE staff via the staff intranet <https://wiki.deakin.edu.au/display/SEBE/>. Please contact [Matthew Connolly](#) if you cannot access this site.

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## 1 – Roles and Responsibilities

**Work Supervisor:** the person who directs the work that takes place, and is usually an academic supervisor (research) or Unit Chair (teaching).

Responsible for:

- Completing a risk assessment (Work Safety Assessment or similar) prior to work commencing
- Informing all participants of the risk assessment outcomes and ensuring they are adequately trained in safe work procedures
- Verifying that control measures have been put in place and are adequately controlling the identified hazards

**Work Leader:** the person delegated some responsibility while in the field if the Work Supervisor is not present. In an emergency in the field the Work Leader has the authority to influence or direct the actions of workers involved in the activity. Delegation of duties to the Work Leader does not reduce the responsibility of the Work Supervisor to ensure safe working procedures are in place.

**Participant:** a person directly carrying out work in the field; may be a staff member, student or volunteer.

Responsible for:

- Behaving in a manner which in so far as possible promotes their own, and the safety of others
- Providing all the necessary information to the Work Supervisor to enable accurate completion of the risk assessment
- Ensuring the control measures identified in the risk assessment continue to work effectively and are adequately controlling the identified hazards
- Informing the Work Supervisor of any incident, information or result that reduces the validity or effectiveness of the initial risk assessment
- Carrying out work according to any safe work methods developed (including use of correct PPE)

**Fieldwork Safety Officer:** a nominated staff member who has experience in dealing with fieldwork safety matters, but does not necessarily go out into the field. Sign-off by the Fieldwork Safety Officer allows an independent assessment of the work but does not reduce the responsibility of the Work Supervisor.

Burwood – Clorinda Schofield (x17617)

Warrnambool – Paul Tinkler (x33527)

Waurm Ponds (LES) – Tara Draper (x72719)

Waurm ponds (Engineering) – Craig McGill (x73452)

**Duty Officer:** a person not travelling to the field site who acts as a point of contact in case of emergency or reporting-in. Ideally it will be the Work Supervisor if they are not entering the field, but it can be the Fieldwork Safety Officer, another staff member or local contact (e.g. park ranger). A family member can also be used so long as they are willing and able to raise an alarm if needed.

Responsible for:

- Enacting a rescue plan in cases where workers fail to report back by a designated time

The **University HWS Unit, Faculty EHS Manager** and **Technical staff** can provide advice or assistance with fieldwork safety planning and assessment, but this does not reduce the direct responsibility of the Supervisor and Workers to ensure that safe fieldwork procedures are carried out.

## 2 – Fieldwork safety requirements

### 2.1 Risk assessment (Work Safety Assessment)

A risk assessment must be undertaken before work commences to document the foreseeable hazards associated with tasks, equipment, materials or location encountered during the field trip. The risk assessment must identify control measures that will be used to lower the identified risks, and emergency plans in place.

SEBE's recommended method of risk assessment is by completing the [Work Safety Assessment \(WSA\) Fieldwork](#). The Work Supervisor and/or Work Leader is responsible for filling in the WSA: it must be signed-off by the Work Supervisor (to show that work is approved) and Fieldwork Safety Officer (to provide an experienced, impartial assessment) before work commences.

When repeat trips are made, a previous WSA can be used as long as the hazards have not changed significantly. If hazards have changed the WSA must be altered to reflect the changes, and re-approved.

See Appendix A for assistance with completing a WSA.

### 2.2 Briefing session & fitness to take part in the trip

A **briefing session** should be organised to provide participants with logistical and safety arrangements before the commencement of the trip or fieldwork program. If a Duty Officer is to be used they must be made familiar with the details of the trip as well as any Report-in or Emergency Procedures.

The briefing should cover the contents of the risk assessment and other relevant details (especially where diving operations are required) and can be in-person or in written form, and should cover:

- Information about travel arrangements, safety requirements, names of supervisors, accommodation details
- Practical requirements for the work, e.g. clothing, sun screen, insect repellent, sunglasses, footwear, weatherproof coat, water bottle
- Potential hazards that may be encountered and the control measures that must be employed
- Emergency procedures

Participants must be given a chance to raise concerns if they are medically unfit to take part in the work, if they have not already. Completion of the [Off-Campus Activities Questionnaire](#) (or similar) allows the Work Supervisor or Work Leader to describe the common activities that will take place during the fieldtrip and for the participants to discretely disclose any medical or personal issues they have which would prevent them from completing the activity.

Questionnaire responses should be collated and provided to the Work Leader, and destroyed at the completion of the trip, or the end of work if repeat trips are involved. Use of the Off-Campus Activities Questionnaire is mandatory for undergraduate field work.

*Refer to the Diving Policy and Procedures Manual for diving and snorkelling related fitness requirements.*

### 2.3 Notification of fieldtrip and tracking participants

Appointment of a Duty Officer is mandatory for work which takes place in/on/near water, overnight, overseas, in remote locations (>30 mins from assistance) or involving undergraduate class trips. It may not be deemed necessary to appoint a Duty Officer for single-day, low-risk research fieldwork.

The Duty Officer does not take part in the fieldwork and acts as a point of contact in case of emergency or reporting-in. The Duty Officer must be provided with details of the trip, including any Report-in or Emergency Procedures. Completing the [Fieldwork notification form](#) will achieve this (see [SEBE Fieldwork Safety page](#))

## Appendix A – Completing a Work Safety Assessment

### A.1 Potential hazards to consider for inclusion in a Work Safety Assessment

Hazards that are reasonably foreseeable need to be identified and recorded, along with specific control measures that will be used to lower the risk.

The following are a sample of hazards that could be encountered, along with specific control measures that could be employed. The Work Supervisor, Work Leader and Participants need to decide if the controls will be adequate to control the risk. The list is not exhaustive, further consideration may need to be given towards the location, materials, equipment and processes as to the likelihood of other hazards being encountered.

Hazards associated with location		
Hazard source	Potential hazards	Controls measures for consideration
Remote location (>30 mins from assistance, outside mobile phone coverage)	Isolation	Alternate communication methods, Duty officer and Report-back procedure
Extreme weather event	Blizzard, storm, bushfire, cyclone, flood, etc.	Monitor weather forecast
High temperature	Heat exhaustion, dehydration	Adequate water supply, suitable clothing, shade, rest breaks, avoid alcohol
UV exposure	Sunburn	Suitable clothing, sunblock, hat
Low temperature	Hypothermia, frostbite	Cold weather gear, stay dry/out of wind
Marine/coastal location	Currents, rips, abnormal waves	Knowledge of conditions, buoyancy aids, second person to watch for waves
Inland waterways	Tides, loose rocks, slippery surfaces, underwater obstacles	Knowledge of tides/local conditions, buoyancy aids
Urban location	Vehicles, assault	Local knowledge, security escort
Work on private land, national park	Security, legal issue	Duty officer and Report-back procedure, Permits/permissions required
Camping	Security, falling branches	Campsite selection
Overnight stay, after-hours work	Security	Duty officer and Report-back procedure
International	Security, Unfamiliarity with area/customs, Disease, DVT, Jetlag	Duty officer and Report-back procedure Local contact Vaccination

<b>Hazards associated with work tasks</b>		
<b>Hazard source</b>	<b>Potential hazards</b>	<b>Control measures for consideration</b>
Microbiological material	Tetanus, malaria, cholera, typhoid	Vaccination, PPE, hygiene
Water-borne infection	Wound infection	Suitable clothing, hygiene, first aid, vaccination
Mechanical (machinery, plant, tools, equipment)	Entanglement, trapping, crushing	Completion of Plant WSA, guarding, training, maintenance
Electrical (generators, equipment)	Shock, fire	Correct use, guarding, training, maintenance, portable RCD
Boating	Boat accident Drowning Stranding	Recreational boating licence Accredited boat use course Deakin Safe Boating Procedures
Boating, Diving, snorkelling	Drowning, Bends	Refer to Diving and Boating Procedures
Sample collection, netting, use of waders	Drowning, slippery surfaces, manual handling	Training, safe work procedures
Working at heights	Falls	Harness, safety ropes, training, permit to work
Confined Spaces	Asphyxiation	Training, Permit to work
Off-road driving	Vehicle accident	Accredited 4wd training 2 drivers per vehicle
Towing	Vehicle accident	Accredited trailer-towing course
Pedestrian and Vehicle interaction	Struck by or crushed by vehicle	Training, PPE, traffic management
Lone work	Isolation	Communication, Duty officer and report-back procedure, regular roll-calls
Hazardous materials (chemicals other than ethanol, biological, radiation, plant/equipment)	Various	Completion of appropriate Work Safety Assessment, MSDS, PPE
Use of specialist equipment (e.g. net cannon)	Injury	Training, permits, safe work procedures
Health	Pre-existing condition, food allergies, lack of fitness	Health declaration, special arrangements
Preparation of food	Food poisoning	Food-handling procedures
Behaviour	Negative or disrespectful interactions that do not engender the university's commitments to an equitable work and learning environment	Knowledge of group members, respect for other people/cultures, compliance with leader instructions
Building sites	Accident	Permissions, training, supervision
Manual handling	Injury	Training, safe work procedures, mechanical aids/trolleys
Animal handling (alive or dead)	Injury Infection	Animal handling training Animal Ethics application
Venomous animals	Bite, exposure	Safe work plan First aid plan

## A.2 Emergency procedures

Emergency procedures should describe the course of action to be taken in case of incidents which have the potential to be serious. They must be part of the trip briefing and known by all participants. An emergency procedure may be initiated by the Work Leader or other participants in case of an incident in the field, or the Duty Officer on campus in case of a failure to report back.

A **Report-back procedure** must be developed:

- where there is the possibility of getting lost
- work is taking place in a hazardous location
- where work is overseas

The Report-back procedure should clearly define the times and method (phone call, email, etc.) that contact will be made to verify that the working party remain safe. The **Failure to report procedure** clearly defines the course of action to be taken by the Duty Officer when contact does not take place.

[Fieldwork notification form](#) provides an example of these procedures.

Other potential **Emergency Procedures** to consider:

- Injury or accident to participants, Work Leader or driver
- Separation from the group
- Failure to report back or meet at a designated time
- Snake/animal bite
- Vehicle accident
- Pre-notified medical condition

Considerations when developing Emergency procedures:

- A reliable contact method (consider mobile phone reception, possibility of dead battery, etc.)
- Availability of First Aid Officers and Kits ([University Field Trip First Aid Guidelines](#))
- Pre-determined meeting point in case of separation
- Location of medical assistance (how close is the nearest hospital, and how long will it take an ambulance to arrive)
- How emergency responder will reach injured party if ambulance cannot gain access
- Location of nearby police or responsible authority (park ranger, etc.)
- Contact details of local consulate (international travel)

See Appendix D for example emergency procedures from the Deakin University Safety Management System for Research Vessel, *Yolla*.

## A.3 WSA Approval

It is important that Work Safety Assessments are approved before work commences. The Work Supervisor sign-off shows that the description of work is accurate and that adequate controls, training and supervision will be provided. The Fieldwork Safety Officer provides an impartial, experienced view of the planned work. Approval by the Fieldwork Safety Officer also shows that the activity is school-approved work, and is thus covered under WorkCover insurance. In cases where work is high-risk the Plan may be forwarded to the Head of School for approval, at the discretion of the Fieldwork Safety Officer.

## A.4 Other considerations (alphabetical)

### Accident reporting

All accidents or incidents must be reported: [accident and hazard reporting](#)

### Boating, Diving and Snorkelling for research

The Faculty has clearly defined procedures which must be followed when boating, diving or snorkelling for fieldwork.

Contact [Paul Tinkler](#) (x33527) for more detail.

## Communication methods

Consider the most effective and reliable method of communication to be used while in the field. Options include:

- Mobile phones (consider charging and reception issues)
- CB radio
- VHF radio
- Satellite phone
- Marine radio
- EPIRB
- Flares
- Satellite tracking
- GPS navigation
- Spot trackers

## Food handling safety

(From University of Queensland fieldwork guidelines)

When fieldwork involves extended stays, the Supervisor must ensure that participants are provided with hygienic and wholesome food. Food must be prepared in as hygienic a manner as is practicable as gastrointestinal illness could incapacitate a whole group of participants. The following points should be observed:

- Hands must be washed or cleansed before touching food or after using the toilet.
- All food items must be prepared hygienically, using clean hands and utensils.
- A supply of potable water must be obtained. If necessary, the water should be sterilised by boiling, filtration or use of tablets. Always assume stream and river waters are unsafe, even in wilderness areas. Expedition members should drink enough to be able to pass clear urine rather than yellow.
- People with skin (on hands), nose, throat or bowel trouble should not prepare food.
- Cuts and sores should be covered with waterproof dressings.
- People preparing food must, as far as is reasonably practicable, be clean and wear clean clothing.
- Smoking, coughing, or sneezing over food must be avoided.
- Food preparation areas must be kept as clean as is reasonably practicable.
- Food must be kept clean and covered to prevent contamination by dust, insects etc. It should be kept cool (below 5 degrees Celsius) or hot (above 70 degrees Celsius).
- Pre-prepared foods should be wrapped tightly or protected in sealed containers before packing them in a cooler. Raw meats should be placed at the bottom of the cooler and ready-to-eat items above.
- The practice of cooking food for consumption one day ahead should be avoided. Otherwise cooked food must be cooled as quickly as possible and refrigerated within 2 hours. If served hot, it must be thoroughly reheated.
- Lids must be kept on dustbins and waste food disposed of carefully, promptly and regularly.
- Do not leave food uncovered prior to serving.
- Cooking stoves must be of safe construction, operated safely, maintained in a safe condition, and sited so as to minimise any fire risk. Solid fuel stoves are safer than gas or liquid fuel stoves. Gas cylinders should be changed in the open air.
- Care must be taken to avoid burns and scalds.

## Hazardous materials – chemical, biological, radiation or plant

If hazardous materials are to be used a Work Safety Assessment form must be completed.

See [Research and work safety assessment](#).

### **Manual handling assessments and training**

Hazards from manual handling are likely to occur when undertaking work in the field, and may result from lifting or moving heavy equipment, or from repeat movements.

Any manual handling issues need to be identified and assessed (Is the task mandatory? Can it be done differently?). Any hazardous manual handling that remains after an assessment needs to be covered in training for all participants.

Advice and assessment forms are available in the University OHS Manual: [Manual handling & ergonomics](#)

### **Private vehicles**

University vehicles should be used for all fieldwork trips wherever possible. Private vehicles cannot be used without approval from the Work Supervisor.

Refer to: SEBE > [Fleet cars and intercampus travel](#) > Use of University Vehicle Guidelines

### **Towing and off-road 4-wheel drive use**

Completion of an accredited training course is mandatory before towing a trailer/boat or using a 4-wheel drive vehicle in 4-wheel drive mode.

### **Transport safety considerations**

(From Vicroads 'Plan your drive and stay alive' brochure, 1992).

#### 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 a total of more than 8-10 hours in any one day.
- Don't plan long drives after unbroken periods of work (more than 5 hours without a break).
- Avoid alcohol and medication that may cause drowsiness (check with your doctor) before and during the trip. A zero blood-alcohol must be adhered to for drivers of University vehicles.

#### On the trip:

- Take regular breaks (at least every 2 hours). Get out of the car and walk around for a while.
- Take a power nap if drowsy.
- Share the driving when you can.
- Eat properly - not too much and not too little; don't drink any alcohol during rest breaks.
- If you feel tired and sleepy, find a suitable place to stop and sleep as soon as possible.
- If driving at dusk/night be aware of the presence of animals on the roads.

### **Vaccination**

Vaccination may be required depending on the location where work will take place (e.g. internationally) or the materials that will be worked with (e.g. sewage contact- typhoid & hepatitis). The following link provides a guide as to what may be required, in consultation with a doctor.

<http://www.health.gov.au/internet/immunise/publishing.nsf/content/handbook-home>



## Appendix B - International Fieldwork and Insurance

### Booking International Travel

The faculty follows the Deakin travel process requirements, for details see [SEBE Travel](#)

### Additional considerations for international fieldwork planning

- Local climate (humidity, altitude, weather, etc.)
- Unfamiliarity with area/local customs
- Food, mosquito and water-borne disease (e.g. malaria)
- Personal security due to terrorism or civil unrest
- Deep Vein Thrombosis and jetlag from long flights

### Government Resources

The Department of Foreign Affairs and Trade (DFAT) provides travel advice for countries or regions based on threats to personal security: <http://smartraveller.gov.au/>

When planning international travel this advice should be consulted, and the following precautions considered:

- **Level 1: Exercise normal safety precautions** or **Level 2: Exercise a high degree of caution** - the work can be conducted following careful implementation of appropriate risk control measures outlined in the WSA.
- **Level 3: Reconsider your need to travel** - the work should not be conducted unless a high level of risk control can be demonstrated with minimal chance of failure. The WSA will require special consideration and usually approval by the Head of School.
- **Level 4: Do not to travel** - the travel should not take place.

All travellers should register their travel plans with DFAT so that they can be quickly located in case of an incident: <https://orao.dfat.gov.au/pages/userlogin.aspx?ReturnUrl=/pages/secured/default.aspx>

### WorkCover and Insurance

Staff undertaking University-approved business within Australia are covered under normal workers' compensation (WorkCover). For international work, advice should be sought from the [Human Resources Division](#) regarding WorkCover and other Workers' Compensation cover. For example, WorkCover may apply for stays up to 6 months, however if the travel is a formal arrangement with work performed and paid for by another organisation, local Workers' Compensation arrangements may apply. Travel Insurance and other advice is available from the [Financial Services Division](#).

Students undertaking field trips, fieldwork and excursions are covered under University Insurance. See [Insurance for students](#)

Alternatively contact the University Insurance Officers [Meiring Gouws](#) (x68052) or [Sandra Primmer](#) (x33121).

## **Appendix C - Emergency Management Procedures**

*(From Deakin University Safety Management System for Research Vessel Yolla)*

### **Fire**

In the event of a fire on board the vessel the following procedure shall be adhered to:

- The person first noticing the fire or apparent presence of fire shall yell "FIRE" so as all persons on board are able to hear it
- The Master of the vessel shall immediately inspect the fire site and assess its severity. If necessary, the Master may initiate or have initiated distress calls on all available communication devices
- Members of the crew shall be directed by the Master to obtain Fire Fighting equipment as required
- All other persons shall muster at the Emergency Mustering Point
- The Master and crew shall fight the fire until it is either extinguished or cannot be contained further
- The Master, if necessary shall order crew members to launch the life raft
- The Master shall then, if necessary, order the abandonment of the vessel after the necessary equipment; distress calls and checks have been made
- The Master, crew and any other person on board the vessel shall abandon the vessel as directed by the Master and in an orderly fashion as controlled by the Master
- All persons shall board the life raft and take steps as normally required and await assistance
- The Master shall remain in control at all times

### **Flooding**

Should the vessel be flooded the following procedure shall be adhered to:

- The person first noticing the flooding shall notify the operator of the vessel immediately
- The Master of the vessel shall attend the scene of the flooding and assess its severity giving consideration to the watertight compartments of the vessel
- If repairs can be conducted to prevent further flooding, the Master shall order the repairs if it is safe to do so
- If the flooded area is able to be drained or pumped dry, the Master shall order the draining or pumping of the area if it is safe to do so
- If the flooding cannot be stopped and the watertight integrity of the vessel is threatened, the Master shall if it is considered necessary to do so, issue distress calls from all available communications equipment. The Master shall also order all persons aboard to the Emergency Mustering Point
- The Master, if necessary shall order crew members to launch the life raft
- The Master shall then, if necessary, order the abandonment of the vessel after the necessary safety equipment has been deployed and distress calls made
- The Master, crew and any other person on board the vessel shall abandon the vessel as directed by the Master and in an orderly fashion as controlled by the Master
- All persons shall board the life raft and take steps as normally required and await assistance
- The Master shall remain in control at all times

### **Accident Causing Injury to Person**

Should an accident occur on board the vessel or around it that causes death or injury to a person from the vessel, the following procedure shall be adhered to:

- Upon the discovery of the injured person, the Master and crew shall immediately perform First aid practices within their capabilities
- The Master of the vessel shall, by all available means, attempt to notify a rescue agency in order to have the person removed from the vessel (where necessary)
- The Master of the vessel shall, by all available means, attempt to gain assistance from other entities (where necessary)
- The Master of the vessel shall return the vessel to the nearest available safe port to have the person attended to by medical staff (where required)
- The Master of the vessel shall record the injury in the vessel log
- The Master of the vessel shall make reports as required about the incident