



PROCEDURE

Fitzroy Basin Association

TITLE: Working On, In or Near Water	
Line of Business: Workplace Health & Safety	
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Introduction

Fitzroy Basin Association values the health and safety of its employee, contractors & volunteers, and is committed to providing a safe working environment.

Purpose

The purpose of this document is to define FBA’s expectations around safety working on, in or near water, which includes rivers, streams, wetlands, lakes, aquifers, estuaries and coastal areas.

The procedure outlines FBA’s approach to minimise the incidents and injuries from hazards associated with working on, in, or near water, and to fulfill relevant legislative obligations as outlined in:

- Work Health and Safety Act 2011 (Qld)
- Work Health and Safety Regulation 2011 (Qld)

Responsibility

This procedure applies to all employees (whether full-time, part-time or casual), and all personas performing work at the direction of, or on behalf of the Organisation (for example contractors, subcontractors, agents, consultants, volunteers, and temporary staff), (collectively referred to as “workers”).

Role	Responsibility
Senior Managers	<p>Communicate, consult and ensure a process or system is in place to supervise workers involved in activities where they may be exposed to any risks associated with working on, in or near water.</p> <p>Regularly monitor and review the effectiveness of controls for managing the risks related to working on, in or near water within their area of responsibility and implement corrective actions and treatment plans where required.</p>
Supervisors	<p>Make sure that risks associated with working on, in or near water by members of their team are identified, assessed and managed in consultation with workers. Hazard Identification & Risk Assessment (HIRA) form completed.</p> <p>Implement and regularly review controls to mitigate the risks.</p> <p>Provide workers with fit for purpose equipment as required by this procedure and ensure they are correctly used and maintained.</p>
Project Officers/ Managers	<p>Identify the risks associated with working on, in or near water at the work planning and scoping stage.</p> <p>Communicate with the contractors of the identified risks and the requirements from this procedure.</p> <p>Obtain and review the Job Safety Analysis (JSA)/Safe Work Method Statement (SWMS) and other required documents to ensure the risks associated with working on, in or near water are identified and appropriate control measures are developed.</p> <p>Conduct assurance activities to ensure controls are implemented.</p>
WHS Team (Within the Corporate Services Team)	<p>Provide advice, support and consultation on managing the hazards and risks, including identification and implementation of effective risk controls.</p>
Workers	<p>Conduct a risk assessment and implement risk control measures prior to commencing any work that involves working on, in or near water.</p> <p>Turn up fit for work when undertaking any tasks that involve working on, in or near water.</p> <p>Wear and maintain personal protective equipment (PPE) as required by this procedure.</p>

PROCEDURE

The Qld Work Health and Safety Regulation 2011 requires employers engaged in any work activities conducted on, in or near water 'to minimise the risks of death, injury or illness as far as is reasonably practicable'.

Typical activities that FBA (or appointed workers) undertake on, in or around water are listed as follows:

- wetland assessments
- seagrass planting
- helishoots over wetlands
- electro fishing
- dolphin/species monitoring
- installation of fish hotels, fish ladders
- beach access driving
- bank stabilisation earthworks
- revegetation, planting & associated maintenance works
- endangered species identification & monitoring (e.g. turtles, birds)
- feral animal monitoring/ eradication

Managing the following risks associated with working on, in or near water is the primary focus of this procedure:

- Drowning or injury caused by slips, trips, or falls
- Falling into water with electrical equipment and suffering an electric shock
- Vessel capsizes
- Collision between vessels or other vehicles
- Uncontrolled underwater event:
 - Being trapped under water by equipment or objects and drowning
 - Hitting objects or being hit by moving objects should a person fall into a water body
 - Being swept away by fast moving water and being injured or drowning
 - Tidal surge
- Exposure to:
 - contaminated water
 - flora or fauna (dangerous animals – e.g. crocodiles, sharks, snakes and marine stingers etc)

Managing the Risks

Risk Assessment

A Hazard Identification and Risk Assessment (HIRA) must be conducted in consultation with relevant workers to identify and assess all the risks associated with working on, in or near water. The risk assessment must be undertaken in accordance with FBA's WHS05 Risk Management Procedure. This involves the following:

1. Plan the job including identifying the hazards and assessing the risks related to working on, in or near water.
2. Determine appropriate control measures to be applied which effectively reduce risk exposure to levels as low as reasonably practicable.
3. Ensure appropriate equipment and PPE is available and risk assessed according to the tasks being performed.
4. Ensure an appropriate rescue plan has been discussed, agreed upon, recorded on the HIRA, signed off by all team members who are competent and appropriately trained to complete the task.

When undertaking the risk assessment, the following factors must be considered:

- Access/egress to or from the location on, in or near water, where the work will be carried out
- The frequency and duration of exposure to the identified hazards
- The water body factors that impact on the consequence of a fall into the water body e.g. depth, speed of the water flow, turbulence, debris load and type and slope of the waterbed
- Types of equipment to be carried and used
- The knowledge, experience and competency of the workers
- Environmental conditions which may impact on the work activity and rescue (i.e. remoteness of the workplace, weather conditions such as wind, rain, temperature, and lighting)
- Controls that can eliminate or mitigate the hazards in accordance with FBA’s hierarchy of controls as outlined in FBA’s Register of Known Risks.

Hierarchy of controls

The hierarchy of controls must be used to identify the most appropriate risk control measures to manage the risk. The following are possible control measures associated with working on, in or near water:

Hierarchy of Control	Example of possible risk controls
Eliminations (HIGHEST LEVEL)	Eliminate the potential of falling into water and drowning through work planning and process/ workplace design. E.g. remote monitoring, ready device, installation of pipes, tubes and pumps to collect water without needing to access the water’s edge.
Substitution	Replace the process, plant, or equipment with an alternate e.g. fabricate structures on land than transferring them to be installed in position over water or use of drones.
Isolation	Isolate workers from the water edge by installing a guardrail or barrier around a water body.
Engineering	Design or re-design the process, plant, or equipment (i.e. install temporary barrier, provide fixed access/egress).
Administrative	Develop work instructions (Safe Work Procedures/ Job Safety Analysis) for undertaking tasks that expose workers to risks. Warning signage. Contractor licencing, maintenance, and insurance records obtained to validate competency and compliance.
PPE (LOWEST LEVEL)	Hard Hat, boots, harness, lifejackets, Personal Location Beacon (PLB)

Safe work environment

Where possible, appropriate edge protection (e.g. handrails or guardrails) which prevent a worker from falling into a water body must be provided, installed, and maintained. Temporary edge protection and barriers should be considered where the provision of permanent structure and protection is not reasonably practicable.

Good ground condition and housekeeping must be maintained to minimise the risk of falling into a water body.

Signage may be installed to prevent inadvertent access to unprotected water edge.

Vessels to be regularly maintained with licenced driver/s and current safety equipment. Copies of licencing and insurances are to be obtained by contractors during the HIRA process.

Safe work equipment

Where identified through a risk assessment the following equipment in relation to working on, in or near water must be provided:

- Fit for purpose equipment (e.g. vessels, kayaks and mobile plant).
- Where there is a risk of falling, a fall restraint system and fall arrestment system (e.g. anchor points, ropes and harness).
- Lifejackets (PFD's) that comply with *AS 4758.1 Personal floatation devices – general requirements*.
- A first aid kit
- Animal protection barriers

Safe work systems

Appropriate work planning must be carried out prior to commencing any work activities that involve working on, in or near water. The work planning may involve:

- Determining the most appropriate work methods that minimise the risk of falling into water, becoming submerged under water and drowning
- Allocating adequate and competent workers to perform the task
- Selecting fit for purpose equipment
- Planning most appropriate access/egress to or from the area you will be working in (e.g. may be safer to access from the water rather than from land)
- Planning the journey including journey via vehicle and/or vessel
- Developing or reviewing a HIRA/JSA where required
- Developing a rescue plan where identified through a risk assessment

High Risk Activities

The following activities associated with working on, in or around water are deemed by FBA as High-Risk Activities:

- Diving | Snorkelling
- Working within known Crocodile habitats

Due to the increased risks associated with these activities, FBA have documented specific procedures and control measures to assist with managing the risks. Refer to:

- *Appendix A: SAFE WORK PROCEDURE Diving | Snorkelling*
- *Appendix B: SAFE WORK PROCEDURE Working within known Crocodile habitats*

All high-risk activities must undertake a Job Safety Analysis (JSA) in addition to a Risk Assessment (HIRA). The JSA documents individual work steps and their associated hazards in order to put in place correct solutions to eliminate or minimise the risk of those hazards.

Definitions

Term	Definition
Automatically inflated lifejacket	A lifejacket, in which inflation is effective as a result of immersion without the wearer required to carrying out any actions at the time of immersion.
Body of water	Any human made or natural collection of water that presents a potential hazard. This includes rivers, streams, wetlands, lakes, aquifers, estuaries and coastal areas.

Competent person	A person who has acquired through training, qualification or experience the knowledge and skills to safety and effectively carry out the task.
Floodwater	Water that overflows from a river, lake, etc during a flood event. The velocity, depth and debris load of floodwater is hard to predict as situations change rapidly.
Near	For the purpose of this document “near” water is defined as working within 2.0 metres of waters edge that is 1.0 meter or more in depth.
Lifejacket	A garment or device which, when correctly worn and used in water, will provide the wearer with a specific amount of buoyancy to support the wearer while in the water and prevent drowning. Also commonly known as a Personal Floatation Device (PDF).
Unprotected edge	A drop off or fall from any height that is not physically protected or is created by the removal or medication of an existing structure which is used to prevent exposure to an unprotected edge, such as removal of flooring, guard rail, hatches, pit covers or manholes.

References (Including Information Services)

Legislation	Queensland Work Health and Safety Regulation 2011
	Work Health and Safety Regulation 2011 (Qld)
Australian Standards	AS4758.1:2008 Personal floatation devices – General Requirements
	AS4994.1:2009 Temporary edge protection – General requirements
Plans/Other References	Queensland Crocodile Management Plan (Department of Environment and Heritage Protection) https://environment.des.qld.gov.au/_data/assets/pdf_file/0024/87711/wl-mp-croc-manage-plan.pdf
FBA Policy & Procedures	WHS01 Workplace Health and Safety Policy
	WHS05 Risk Management Procedure
	WHS09 Field Work Policy
	WHS15 Personal Protection Equipment & Clothing
	WHS07 Vehicle Safety Policy
	FBA Loneworker Procedure
Forms & Templates	Hazard Identification & Risk Assessment Form (HIRA)
	Job Safety Analysis Form (JSA)

Appendix A: SAFE WORK PROCEDURE Diving | Snorkelling

These specific activities have greater risks due to the hazards that apply to the activity all or most of the time (such as drowning if an air supply fails or decompression illness). These hazards are specific to the workplace environment, human factors or the natural environment. This Procedure is to be read in conjunction with FBA's Field Work Policy.

Workers undertaking diving and snorkelling activities must undertake a Job Safety Analysis (in addition to a Risk Assessment - HIRA), to document detailed steps of all activities and associated control measures to mitigate the higher level of risk.

Specific diving and snorkelling workplace environmental hazards include:

- Diving equipment failure
- Compressors, storage and gas supply systems
- Air purity
- Pressure differentials
- Vessels, including dive vessels, tenders and shipping movements
- Vessel boarding, entry and exits
- Entrapment or entanglement hazards
- Overhead environments
- Use of plant underwater
- Dangerous Flora and Fauna (i.e. crocodiles, sharks, snakes and marine stingers)
- Natural environmental factors:
 - Water temperature
 - Current and tide
 - Visibility
 - Depths
 - Time of day
 - Underwater terrain
 - Surface conditions-waves and surges
 - Weather
 - Isolation
 - Chemical or biological hazards
 - Dangerous marine animals such as crocodiles, sharks, snakes and marine stingers

Human factors – specific human risk factors include:

- Medical and physical fitness
- Competence such as:
 - Relevant qualifications, training and information
 - The ability of the individual to understand and act on any advice

Controlling the risks – Diving or Snorkelling

When implementing control measures consider the following:

- Diving qualifications and competency
- Medical and physical fitness
- Supervision
- Information and advice for divers and snorkellers
- Equipment
- Dive plans
- Emergency planning
- Decompression management
- marine animals such as crocodiles, sharks, snakes and marine stingers Vessels
- Entry and exit from water

Appendix B: SAFE WORK PROCEDURE Working within known crocodile habitats

FBA is committed to reducing the risks posed from crocodiles through providing education on risks and mitigation strategies, as well as providing workers with safe working procedures.

This procedure for working within known crocodile habitats has been prepared in accordance with the Department of Environment and Heritage Protection (DES) 'Queensland Crocodile Management Plan' and is to be read in accordance with FBA's Field Work Policy.

About

Estuarine and freshwater crocodiles are an important part of north and central Queensland's wetlands, freshwater and marine areas. They are often the largest predator in these areas and help to maintain the overall health and balance of these ecosystems. In Queensland they are known to occur throughout the Gulf of Carpentaria, Cape York Peninsula, Torres Strait, and along the east coast of Queensland.

Crocodiles are regularly present as far south as the Boyne River near Gladstone, and occasionally as far south as the Mary River. Crocodiles most commonly live in the tidal reaches of rivers and associated inlets and wetlands. However, they also occur along beaches and offshore islands in the Great Barrier Reef and Torres Strait, and in freshwater lagoons, rivers, and swamps up to hundreds of kilometres inland from the coast. As a result, there is a possibility that crocodiles may be present in or near almost any water body north from near Gladstone, all the way to the Northern Territory boarder.



Risks

Crocodiles are opportunistic feeders that can feed on any sized animal they can overpower. They can also be highly territorial, particularly during breeding seasons, and will attack anything in their habitat that they perceive as a threat. As a result, crocodiles can and do attack humans.

Workers undertaking activities within known crocodile habitats must undertake a Job Safety Analysis (in addition to a Risk Assessment - HIRA), to document detailed steps of all activities and associated control measures to mitigate the higher level of risk.

Risk Control Measures

If entry to or near the water is absolutely necessary and works cannot be conducted by any other possible means, FBA's Risk Management 'Hierarchy of Controls' is to be considered, and the following control measures shall be adopted:

1. Risk minimisation strategies

These shall include but are not limited to the following:

- Stay at least 5m from water's edge

- One team member must always act as a vigilant lookout. This is a mandatory risk minimisation strategy regardless of risk assessment. A Spotter must be appointed. This person must be a dedicated observer to oversee all works from a safe location/ vantage point to ensure that the alarm is raised immediately should an incident occur.
- Whistles should be carried so that the observer may effectively alert fellow field workers of imminent danger and vice versa.
- Vary pattern of behaviour if possible – do not keep regular habits that may be learned by crocodiles e.g. avoid visiting the same site at the same time of day.
- Erection of physical barriers (where appropriate, or where work must be conducted within 5 metres from the water's edge).
- Plan for the worse potential outcome and ensure emergency procedures are discussed and documented.
- Buddy system (must always work in pairs).
- Choose the most appropriate access / egress point.
- If there is a need to carry a work pack, ensure it is easily detachable so the pack can be dropped quickly if needed.
- Be aware that muddy water may obscure sudden changes of depth.
- Be aware of submerged object and marine and freshwater life.
- Take time to thoroughly review the work area for hazards.

2. Education & Training

Managers and supervisors are responsible for assuring the provision of adequate and applicable training for employees.

Field staff working in areas where there is a risk of encountering crocodiles must ensure that they receive appropriate education and training to address the risks associated with working in this potentially hazardous environment. This may include details about the biology and behaviour of crocodiles as well as training in first aid.

Detailed records of all training and educational sessions must be kept and signed by the trainee. Senior first-aid certification for all field workers is mandatory.

3. Assessment

All workers must ensure that they have received appropriate education and training before carrying out fieldwork to enable site assessment to be carried out effectively. When assessing whether it is safe to undertake works, consider the following:

Local knowledge and expertise:

Information given by the property owners, local farmers, fishermen and traditional owners

Information from experts and other institutions familiar with working in these environments e.g.

Queensland Parks and Wildlife Services (QPWS), Department of Primary Industries (DPI), Department of Environment & Science (DES), other departmental and local council staff.

Signs of crocodile activity:

Direct crocodile sightings

Presence of crocodile slides and nests, or disturbed vegetation or animal carcasses

Sounds of unusual bird or animal disturbance

Smells such as dead fish or animals or decaying matter

Movement or splashing in the water

Visibility & Mobility:

Depth & Current – Shallow water allows more visibility than deep water.

Time of Day – Do not work past the point where light is beginning to fade and visibility is compromised. Never work around dusk and try to complete activities 1 hour before sunset.

4. Personal Protection Equipment

PPE requirements outlined below are in addition to the equipment and clothing identified in FBA's WHS05 Field Work Policy:

Whistles (warning device)

Temporary Fencing, boats (physical barrier)

Detachable work belts/packs

Supporting Information

(Common Sense: Be Croc Wise, Department of Environment and Science)

Crocodiles are potentially dangerous. Never take unnecessary risks in crocodile habitat. You are responsible for your own safety, so please follow these guidelines and be croc wise in croc country:

- Obey crocodile warning signs – they are there for your safety and protection.
- Never swim in water where crocodiles may live even if there is no warning sign present
- Swimming or standing in water above knee-height near a crocodile warning sign or where estuarine crocodiles are frequently seen, is illegal in protected areas.
- When fishing, always stand a few metres back from the water's edge and never stand on logs or branches overhanging the water. *
- Never eat, clean fish or discard fish scraps near the water's edge, around campsites or at boat ramps. *
- Stay well back from any crocodile slide marks. Crocodiles may be close by and may approach people and boats.
- Boats and vehicles must never be brought within 10m of an estuarine crocodile in the wild – it is illegal unless part of a commercial crocodile viewing tour, or there is a reasonable excuse, e.g. where a creek is less than 10m wide.
- Never dangle your arms or legs over the side of a boat. If you fall out of a boat, get out of the water as quickly as possible.
- Never provoke, harass, or interfere with crocodiles, even small ones.
- Never feed crocodiles – it is illegal and dangerous.
- Camp as least 2m above the high-water mark and at least 50m from the water's edge. Avoid places where native animals and domestic stock drink.
- Never leave food scraps, fish frames or bait at your campsite. Always check that previous campers have not left these behind. *
- Never prepare food, wash dishes, or pursue any other activities near the water's edge or adjacent sloping banks.
- Be more aware of crocodiles at night and during the breeding season, September to April. Adhere to safe working practices, communication protocols, contingency and emergency procedures and minimise time spent in the water.
- Be aware of crocodile behaviour and the breeding season – take extra caution at these times.
- Do not disturb crocodile nests, as nesting crocodiles may be aggressive.
- Do not stand on overhanging logs.
- Never provoke crocodiles, even small ones.
- Do not encourage wild crocodiles by feeding them.

- Report all crocodile sightings to CrocWatch - **1300 130 372**

****Not relevant for the purpose of this procedure or FBA activities.***

Website: <https://environment.des.qld.gov.au/wildlife/animals/living-with/crocodiles/croc-wise>

References

- Workplace Health & Safety Policy
- Field Work Policy
- Field Work Hazard Identification Checklist
- Personal Protective Equipment & Clothing Policy
- Risk Management Policy
- Risk Management Procedure
- Hazard Identification & Risk Assessment (HIRA) Template
- Job Safety Analysis (JSA) Template
- Department of Environment and Heritage Protection (DES) 'Queensland Crocodile Management Plan'