



Beekeeping Basics - Certificate II
Participants Learning Guide

RTD2703A Operate in isolated and remote situations



Australian Government
**Department of Agriculture,
Fisheries and Forestry**



**Australian Honey Bee
Industry Council**

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What this learning guide covers

This learning guide will help you meet the requirements of one unit of competency:

- *RTD2703A Operate in isolated and remote situations*

This learning guide cannot cover all the required knowledge nor prepare you for every eventuality that you may face when operating in a remote situation. Therefore you will need to identify and avail yourself of other opportunities to gain skills and knowledge across a range of related areas. Some of these areas are mentioned later in this Learning Guide.

Resources you will need for this unit

For this unit of competency, you should have:

- Participants Learning Guide (this booklet)
- Participants Assessment Workbook
- an experienced beekeeper
- tools and equipment:
 - protective clothing
 - bee veil
 - bee-proof overalls and gloves
 - ear protection
 - steel capped boots/shoes/gaiters
 - sunhat
 - unperfumed sunscreen lotion
 - watch
 - communication equipment, such as:
 - mobile phone
 - two-way FM radio
 - satellite telephone

- navigation tools, such as:
 - GPS
 - navigator
 - topographical map
 - compass.

The Participants Learning Guide is designed to introduce the topics and to provide you with some practical and written activities which will allow you to develop both your knowledge and skills in each area.

The Participant Assessment Worksheets include activities that you will be completing as part of your formal assessment for this unit.

Please record as much detail as you can as your responses to these activities will form part of your assessment.

You will need to send the Participants Assessment Worksheets to your assessor. Check with your assessor to find out if they need you to submit this Participants Learning Guide as well.

Introduction

In this unit, you will learn about:

- planning for operating in remote environments.
- preparing for operating in remote environments.
- preparing for emergency situations.
- operating in remote environments.

Before you start this training you should be confident about your skills to:

- work as part of team
- follow directions and instructions.

You should know about:

- map reading and navigation skills including direction finding (e.g., GPS, use of compass, stars or watch).
- local topography, nearby inhabitants and locations within that area.
- survival techniques and human needs relating to survival situations.
- clothing requirements for sun or heat protection.
- basic first aid.
- bush craft including making a fire, cooking and wild food gathering.
- water supplies, sources and generation methods.
- emergency vehicle and mechanical equipment repair.
- using communication equipment (e.g., field communications by two-way, satellite telephony and HF radio), and distress signalling including use of signalling mirrors.
- weather and weather indicators
- basic rope skills including useful knots (reef, clove hitch, truckie's hitch, bowline), simple lashings and tying down loads.

Why it is important

In Australia, it is very common for beekeepers to travel long distances to check and move hives and as a result, beekeepers often work away from their home base.

It is therefore very important for beekeepers to be prepared with the right tools and equipment to do the necessary work, and also to reduce the risk of any serious problems that could arise when you are working alone or in a small team in the bush, far from help.

What is an isolated or remote situation?

This is a little like asking how long is a piece of string! Most people would imagine that this phrase describes somewhere that is hundreds of kilometres away from the nearest town. In fact, it is probably more useful to think of an isolated or remote situation as one where help cannot be easily summoned in the event of illness, injury, violence or other emergency, in other words, a typical bee site.



A note on buying equipment

Before buying any equipment, either for work or for your personal requirements, research the various options available to you – look for the best quality that you can afford, bearing in mind the limited space that you might have to transport and store items. Ask your supervisor or advisor what items, types or brands they recommend and which have stood up to continued use.

Important points to remember!

- Know what each piece of equipment is for and how to use it.
- Maintain your equipment as if your livelihood and life depended on it.
- Always have a supply of vital spare parts and repair kit for your equipment.

1. Plan and prepare for operating in remote environments

Activity

What information would you need before setting off, either by yourself or with someone else?

List below the things that you would need to know before you could really start planning for your trip and work.



Floods can occur quickly with dreadful consequences.

Wyong River NSW in flood June 2007.

Where would you get this information?

Your first source of information will be your supervisor, but you can also contact other organisations for specific information. In the table, add the phone number and web site for each of these organisations. Where the name of the organisation is different in your State or Territory, you should add the correct name.

Organisation	Looks after	Phone number	Website
State Emergency Service (SES)	Search and rescue Floods and storms		
Bureau of Meteorology	Weather information		
Road Transport Authority	Road conditions and closures		
Rural Fire Service	Bush fires		
CSIRO Sentinel	Bush fires		
National Parks and Wildlife Service	Closure of parks		
State Beekeeping Association	A nearby member could help handle bees in an emergency		
State Forest Department	Closure of forests		
Department of Primary Industries	Sets up restricted areas in cases of disease		
Police	Everything else		

What do you need to take?

You will need to plan to take a large number of things:

Personal items

- clothing and footwear – this will include your personal protective clothing and equipment
- food
- water
- your medications if needed
- personal first aid kit
- toiletries and items such as sun block
- shelter (eg tent, sleeping bag, swag).

Activity

How much food and water does an average person need each day? Take into account the effects of your physical work and the possibility of extremes of weather and estimate how much YOU would need each day.

A 'buddy'

Many businesses and organisations that work in stressful or isolated and remote situations operate a 'buddy system'. This means that two people are paired and each person checks on the whereabouts and safety of the other. Even if you are working by yourself, you may be able to have a buddy who can contact you or who you will call at pre-arranged times to check that everything is OK.

Work-related equipment to do the job

All workers need to plan how they are going to carry out their tasks. In addition, people who will be travelling to and working in isolated or remote situations need to plan to do those tasks without the benefit of extra help, additional supplies and equipment. They also need to be prepared for any emergency situations that might occur.

Activity

For the purposes of this unit of competency, we will assume that you have already covered the planning needed for each typical task that you will be carrying out. To refresh you, list below the tools and equipment that you need to repair a beehive loader (the equipment that you use).

Activity

Now imagine that you will be repairing a beehive loader at a bee site 100 km from the nearest town. Given that you do not know what sort of repairs might be necessary, or practical to make, what extra supplies should you have taken with you?

As you cannot predict exactly what you might need, you should plan to take extra quantities of the most common supplies and a range of other supplies, especially things that can be used for more than one type of repair. The same principle would apply to any typical beekeeping task.

Other things to do before leaving

- advise others of your route and destination(s) and how long you plan to be away
- know and record the arrangements for you to call in your location to your supervisor or other responsible person who is remaining at the 'home' base.
- transport – check vehicle is serviced and essential spare parts are on board
- equipment – check equipment is serviced and working and that you have essential spare parts/battery chargers etc onboard
- communications– check that this equipment is working correctly and that you know and record the correct numbers and/or frequencies to use for routine and emergency contacts
- other things to think of – access to money – what if you need to buy equipment/replace lost or damaged items?
- what if you see signs that indicate a plant/animal disease?

2. Prepare for emergency situations

Preparing for emergency situations requires research, review and monitoring.

Research

Identify specific risks related to:

- the route you are taking. For example some roads may be in poor condition or have recently graded with gravel built up on corners.
- the locations you will be working in. For example some sites may be out of mobile phone range, may have logging operations happening or may be subject to movement restrictions due to animal or plant disease.
- the activities you will be doing at the bee site. For example, will you be unloading hives, removing full supers, operating extracting equipment?
- forecast weather conditions, including the possibility of extreme situations such as fire or flood which may place you in danger.
- the availability of other people to help, for example who will be back at 'home base' while you are away? Would anyone notice if you were late back? Are you confident that they would know what to do?
- personal ability to cope, including own health and wellbeing.

Review

Based on the research you have conducted, you should consider the following questions:

- Should I change my intended route?
- Should I visit bee sites in a different order?
- Should I postpone my trip?
- Do I need to carry extra or different equipment and supplies?
- Do you need to get new maps (either GPS or paper)?
- Should you take an extra person or make arrangements to meet up with someone?
- Where should I leave a copy of my plan so that other people know what to do?

- Have I considered every likely problem that might occur and have I made some plan to reduce the likelihood and consequences?

Monitoring

No plan is worth much if it sits in your desk and is never looked at.

During and after each trip, you should review the plan.

- Did any of the situations arise?
- Did I gather any more information that I should add to the plan? For example, coordinates for new bee sites, new roads or roads with changed access or conditions.
- Were my supplies and equipment adequate?

Activity

Plan a short trip (say 3 days) to visit a bee site. It is more useful if you are able to do this activity with a real trip that you are about to make. If that is not possible, then chose a place and a route that you might take in the future.

1. Research the risks associated with that trip and note them in the space below:

Example: I have just had an operation on my knee.

Activity

2. Taking into account what you have found out, list below any changes you might make to your trip:

Example: Can't postpone trip but can take Stephen with me.

Activity

3. Use a GPS or navigator.

Plot your intended route using this equipment.

Obtain topographical maps of the areas you will be travelling through and to.

Compare the information on the maps with the information you obtained from the navigator.

Answer the following questions in the spaces below.

Which is better?

Which is easier to use?

Which one do you think you would prefer to rely on and why?

Activity

4. After the trip and in the light of your experience, list below any changes you would make to your plan:

Example: Would have been better to take Darren as Stephen has bad back.

3. Operate in remote environments

Now is the time for you to make a small personal ‘audit’ of your survival skills.

For each skill, you must decide whether you are expert or need more experience. Note down any evidence that you have which would support your assessment – for example you may have a senior first aid certificate or completed a rural fire service training course. **If you do not have a current first aid certificate, then you should arrange to do accredited first aid training as soon as possible.**

	Expert	Need more experience or training	Evidence of my skill
Basic first aid *			
Reading a topographic map			
Using navigation equipment (GPS)			
Using a compass/stars and watch find direction and take bearings			
Using communication equipment			
Using distress signalling (e.g. signalling mirrors)			
Rope skills/knots			
Weather observing			
Bush craft – making a fire and cooking			

Finding water			
Clothing requirements for sun or heat protection.			
4WD driving			
Emergency vehicle and mechanical equipment repair			

*** NOTE:**

Activity

Select one of the areas listed above and research opportunities to improve your level of skill in that area. For example, you might do a formal training course or learn on the job from your supervisor, or you might volunteer with your local Bush fire service.

Activity

Identify the equipment on or in your vehicle that will help you operate in remote areas (things like winches, long range fuel tank , ropes etc) Lists this below:

Final activities and assessment

Now that you have completed all the activities in this Learning Guide, take some time to check that you are prepared to work in an isolated or remote environment.

When you are ready, you can complete the assessment tasks that are listed in the Participants Assessment Workbook for this unit of competency.

Useful references

Bee Agskills: A Practical Guide to Farm Skills, NSW Department of Primary Industries 2007

The Bee Book: Beekeeping in Australia, Peter Warhurst and Roger Goebel
2nd edition Queensland Department of Primary Industries and Fisheries

Commercial Beekeeping in Australia, 2007, Frederick Benecke, Rural Industries Research and Development Corporation, available from <http://www.rirdc.gov.au/reports/HBE/07-059.pdf>