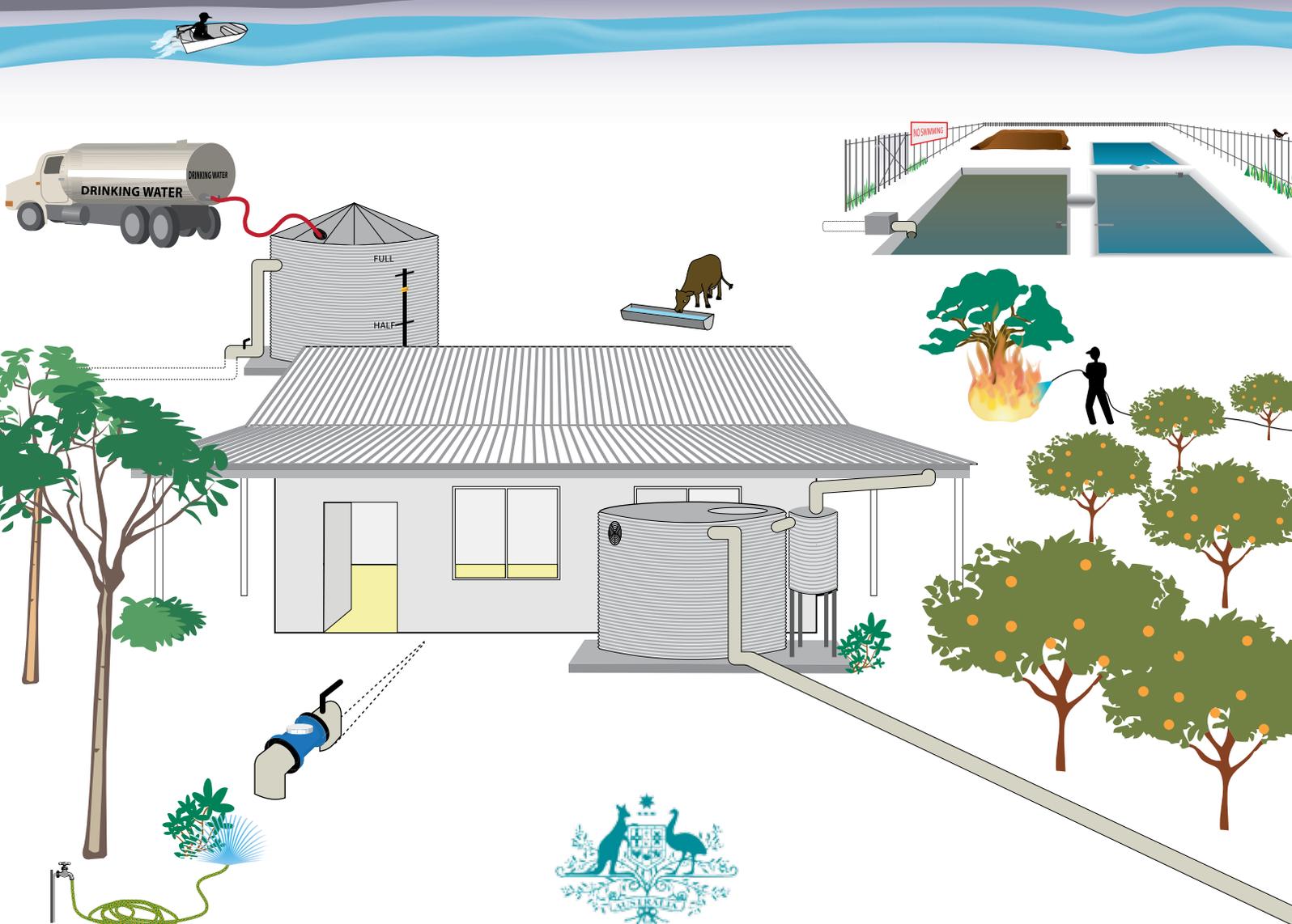


Community Water Planner

# field guide

For people who manage water supplies in rural and remote Indigenous communities of Australia



Australian Government

National Water Commission  
Raising National Water Standards Program



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### The National Water Commission

<http://www.nwc.gov.au>

The Commission, which was created to drive the national water reform agenda, is an independent statutory authority within the Environment, Water, Heritage and the Arts portfolio. The Commission provides advice to the Council of Australian Governments (COAG) and the Australian Government on national water issues.

### Water Quality Research Australia Limited (WQRA) <http://www.wqra.com.au>

WQRA is a national organisation that coordinates and manages high quality, collaborative research on water issues related to public health and aspects of water supply, water recycling and wastewater management.

### The Centre for Appropriate Technology (CAT)

<http://www.icat.org.au>

CAT works to secure sustainable livelihoods for communities of Indigenous people through appropriate technology.

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# Contents

<b>The purpose of this field guide</b>	<b>6</b>
<hr/>	
The <i>Community Water Planner</i>	
<b>Who this field guide is for</b>	<b>8</b>
<hr/>	
The role of the facilitator in the water management planning process	
Identifying community participants	
Working with Indigenous people	
The skills and knowledge that the facilitator needs	
How to use the CWP field guide package	
<b>The water management planning process—an overview</b>	<b>11</b>
<hr/>	
Combining the posters and activity sheets to create the management plan	
Adapting materials to local contexts	
Who you should involve in the planning process	
<b>STEP 1. Discover the water supply</b>	<b>14</b>
<hr/>	
<b>STEP 2. Identify hazards and management activities for the water supply</b>	<b>17</b>
<hr/>	
<b>STEP 3. Manage assets</b>	<b>19</b>
<hr/>	
<b>STEP 4. Identify roles and responsibilities</b>	<b>21</b>
<hr/>	
<b>Reviewing the water management plan annually</b>	<b>25</b>
<hr/>	
<b>Appendix 1:</b> The contents of the <i>Community Water Planner field guide</i> package	<b>26</b>
<hr/>	
<b>Appendix 2:</b> Checklist for first community visit	<b>27</b>
<hr/>	
<b>Appendix 3:</b> Sticker descriptions	<b>28</b>
<hr/>	
<b>Appendix 4:</b> How water can get contaminated	<b>30</b>
<hr/>	
<b>Appendix 5:</b> Water quality	<b>33</b>
<hr/>	
<b>Appendix 6:</b> Test result record sheets for chlorine residual, nitrate and turbidity	<b>35</b>
<hr/>	
<b>Appendix 7:</b> Chlorine-dosing ready reckoner	<b>39</b>
<hr/>	
<b>Appendix 8:</b> Asset maintenance	<b>40</b>
<hr/>	
<b>Appendix 9:</b> Troubleshooting tips	<b>41</b>
<hr/>	
<b>Measures</b>	<b>46</b>
<hr/>	
<b>Acronyms and abbreviations</b>	<b>47</b>
<hr/>	
<b>Glossary</b>	<b>48</b>
<hr/>	
<b>Further information</b>	<b>50</b>
<hr/>	

## The purpose of this field guide

The greatest contribution that can be made to improving water supplies in Indigenous communities in Australia is undertaking planning and effective management.

This field guide was developed to help service providers and residents of rural and remote Indigenous communities manage and operate small water supply systems. It aims to help them keep the water supply as safe as possible and to know what to do when something goes wrong with the water supply.

The field guide is part of a package that includes a series of posters and activity sheets for use on-site in remote and rural Indigenous communities. It provides step-by-step instructions on how to use the package and includes technical information and tips derived from trials of the package in four Indigenous communities. The field guide has been peer reviewed by the National Health and Medical Research Council (NHMRC) and an expert in Indigenous Public Health communication and education.

Based on risk management principles, the field guide describes preventive strategies that are practical and sensible, especially for people living in remote areas. The everyday management of water supplies—the activities required to protect a water supply and when those activities need to be carried out—are informed by the *Australian Drinking Water Guidelines* (ADWG) including the Framework for the Management of Drinking Water Quality (NHMRC 2004). The ADWG are based on the best available scientific evidence gathered from throughout the world.

The key concepts in this field guide are derived from the ADWG guiding principles and include:

- using preventive measures to prevent contamination
- installing the water supply correctly, including having multiple barriers to prevent contamination
- understanding the types of events that can affect a water supply
- acting quickly to remedy a water supply situation.

This field guide is designed to be used with the *Community Water Planner* software and assumes you are already familiar with the *Community Water Planner*.

## The Community Water Planner

The *Community Water Planner* (CWP) (NHMRC 2005) is a computer program. When you give it details about a specific water supply, it can generate an in-depth site-specific water management plan in MS-Word that identifies potential hazards and ranks potential risks.

The CWP offers technical guidance targeted at the community level. Residents and communities can use it to decide on the appropriate course of action to improve their drinking water supply. In 2005 the CWP was incorporated into the *Australian Drinking Water Guidelines*.

The greatest benefit of the CWP for rural and remote water supply managers and operators is that it focuses on activities to prevent water supply contamination, rather than corrective action. For example, testing the water quality is based on verifying that the preventive management activities are working rather than a routine exercise to alert water managers of the need to take action. The emphasis is on routine management, with testing done on an as-needs basis. This is best practice in remote areas due to the challenges and costs associated with water quality testing. The emphasis on water quality testing as verification rather than simply a trigger for action gives water supply managers and operators more control by clearly placing responsibility on the people closest to the supply to monitor the water supply and take appropriate action if a hazardous event occurs.

## Guiding principles of the Australian Drinking Water Guidelines

The greatest risks to consumers of drinking water are pathogenic microorganisms. Protection of water sources and treatment are of paramount importance and must never be compromised.

The drinking water system must have, and continuously maintain, robust multiple barriers appropriate to the level of potential contamination facing the raw water supply.

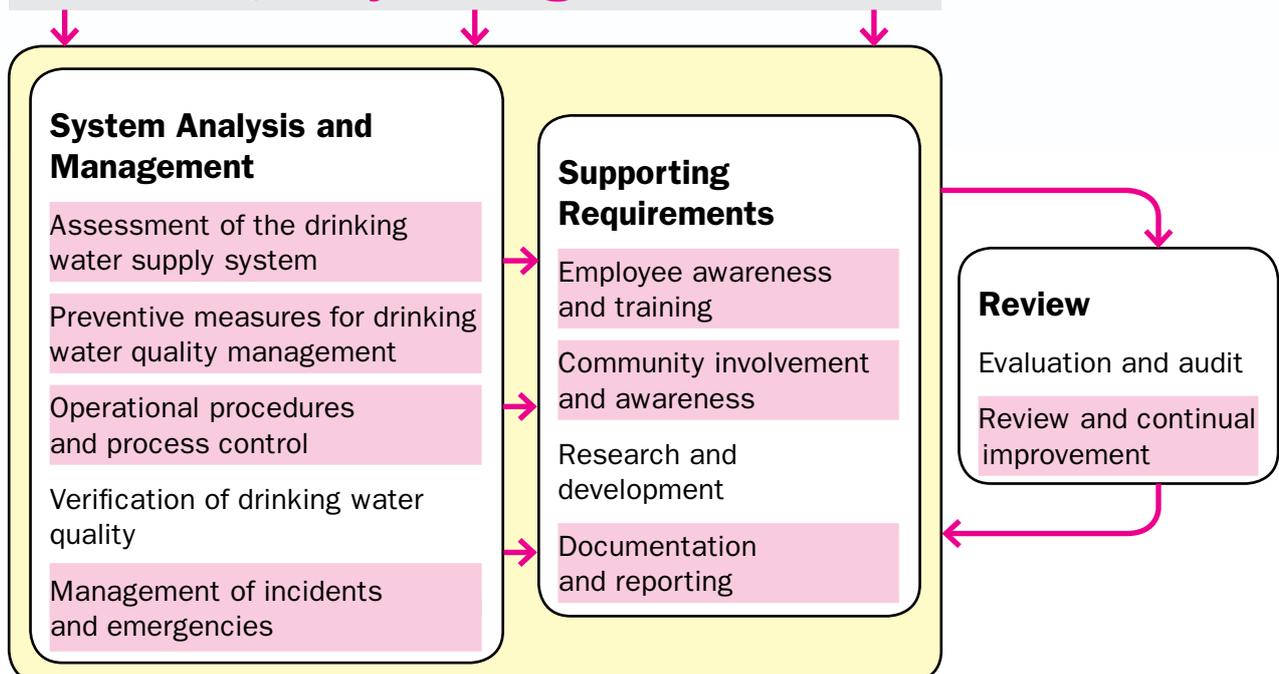
Any sudden or extreme change in water quality, flow or environmental conditions (e.g. extreme rainfall or flooding) should arouse suspicion that drinking water might become contaminated.

System operators must be able to respond quickly and effectively to adverse monitoring signals.

System operators must maintain a personal sense of responsibility and dedication to providing consumers with safe water, and should never ignore a consumer complaint about water quality.

Ensuring drinking water safety and quality requires the application of a considered risk management approach.

## Commitment to Drinking Water Quality Management



**Figure 1. The Australian Drinking Water Guidelines Framework.**  
The elements highlighted represent the elements addressed by this Field Guide.

## Who this field guide is for

While the water management process described here is community-driven, we found through our trials in four Indigenous communities that it works best when a facilitator works through the process with the community and relevant service providers to develop the water management plan. This field guide is, therefore, intended to be used by a facilitator.

The facilitator may come from any one of a number of organisations; for example, they may be an employee of a water utility or a government health agency, a water officer from a non-government organisation, or an environmental officer from a government agency.

## The role of the facilitator in the water management planning process

Your role as a facilitator is to build on the community's strengths and bridge any weaknesses in adapting water management knowledge to local circumstances. If the community understands the benefits of managing their water supply and the kinds of activities required to protect their water supply, they are likely to welcome a water management planning process.

While you allow the community to own the water management plan, you should make sure that the processes put in place are appropriate to the community's needs. This is where your knowledge of managing water supplies and your understanding of the relevant local institutions and bureaucracies will be of benefit to the community.

You will engage with the community and create practical outcomes that improve how the water supply is managed. Creating a process that builds capacity and engages all stakeholders is important for the community, and for service delivery agencies and other agencies, for the long term.

## Identifying community participants

Some communities will have an Essential Services Officer (ESO) or a water manager who is employed to manage the water supply. In smaller communities, the water supply may be managed and operated by a small number of residents. Include these people in the water management planning process—they know how the water supply works.

You should also include anyone else from the community who has an interest in the water supply or who needs to be aware of the management plan, including what to do when a hazard or risk is identified. They may include elders, women and young people.

## Working with Indigenous people

Make sure that you read and abide by your organisation's protocols for working with Indigenous people. Acknowledge the diversity of Indigenous people. Factors that you must take into account when working with individual communities include geography, remoteness, language group, resources available, communication and dress preferences.

### DO

- Get permission from legitimate authorities to work in the community.
- Check with the authorities whether the water source is accessible to everyone. Some bores, for example, may be located in areas of cultural significance and you and / or the community participants may need permission to inspect them.
- Take the opportunity to engage the community residents when and however possible.
- Spend some time identifying those residents who are most interested in the water supply; then cast your net wider for broader engagement as time permits.
- Work in groups of six to eight people.
- Explain to the participants why you are there and the benefits of a water management planning process.
- Be clear about your intentions and your ongoing responsibilities and commitments.
- Show your respect by listening.
- Be flexible and adapt your approach to suit local circumstances.
- Be a good role model. Your role is to facilitate better water management; if you are not sure about something, seek advice from a professional and report your findings back to the community. Let the engagement process be a good example of how to access and use stakeholders and support agencies where possible.
- ALWAYS ASK ABOUT PHOTOS! Ask whether it is okay to take a photo of someone or something. It may be okay to take a photo from one angle but not another, for example. You must also ask for permission to use a photo. Be clear and honest about how you intend to use a photo, particularly if it includes people. If you intend to publish the photo in a document or on the web, then informed consent must be granted.
- ALLOW TIME! Often, a lot of negotiation and 'work' in a community occurs outside a meeting. Allow time for people who have attended the meeting to go away and talk with others and report back at a later date.

### DON'T

- Don't ignore problems with the water supply. You may not have access to funds to fix the problem, or it may not be a core function of your job. But you do have a responsibility to notify a service provider or to inform the water manager of immediate actions they need to take to reduce risks.
- Don't ignore conflict or criticism during the process. Both can arise from misunderstandings or prior negative experiences. Working through conflict and criticisms professionally can improve understanding and build trust.
- Don't worry about silences in a conversation or during a meeting. Don't fill the silence with unnecessary or repetitive talk.

## The skills and knowledge that the facilitator needs

To competently engage the Indigenous community and run the water management planning process using this field guide, you need the following skills and knowledge:

- Knowledge of water supply infrastructure.
- An understanding of risk management and knowledge of preventive practices in water management.
- Knowledge of water quality and quantity issues.
- Familiarity with the Framework for the Management of Drinking Water Quality in the *Australian Drinking Water Guidelines*.
- Familiarity with the CWP.
- Knowledge of stakeholders' roles and responsibilities.
- Facilitation skills—you need to understand and practise good facilitation processes with Indigenous people, recognising local and gendered roles and responsibilities.
- An understanding of how community water supply systems are influenced by the external economic and social environment.
- An understanding of essential service provision in the context of remote Indigenous communities.

## How to use the CWP field guide package

The CWP field guide package comprises this booklet and a set of posters and activity sheets for use on-site in the community. For a full list of all posters and activity sheets, see Appendix 1.

The water management planning process is a 4-step process. This field guide describes the four steps and, in each step, tells you which of the posters and activity sheets you need to use as part of that step. It also suggests the amount of time it is likely to take to complete each step. The process works best when each step is done separately rather than, for example, trying to complete all steps in one 2-day workshop.

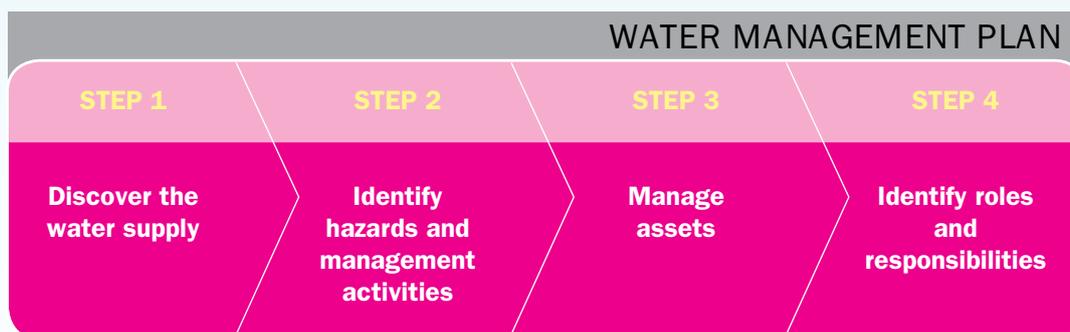
Throughout the process, you work with the community participants to select the posters that are relevant to the community's water supply, and then fill out the activity sheets and update the posters to reflect the local situation. The completed posters and activity sheets become the water management plan, complemented by a documented plan generated by the CWP.

Background information is included throughout the field guide and in the appendices to help inform decision-making and successfully deliver the program. For more information use the list of references at the back of this field guide.

## The water management planning process — an overview

The water management planning process (see Figure 2) has four steps:

1. Discover the water supply—this is an information-gathering step where you walk the supply with community participants and then map it out on a poster.
2. Identify hazards and management activities—in this step, you share with community participants your knowledge of potential hazards and risks to the water supply, how to prevent them and what to do if they occur.
3. Manage assets—the electrical and mechanical components of the water supply all have a useful life. In this step, you work with community participants to identify the components and plan when they will need repairs, maintenance and replacement.
4. Identify roles and responsibilities—in this step, water management roles are identified and people are assigned to tasks. This completes the plan.



**Figure 2. The water management planning process**

The completed management plan resulting from the 4-step process should be reviewed every year. The annual review is an opportunity to include step-wise improvements and water supply changes into the plan.

The planning process is designed to be flexible. So, depending on the situation and what best suits the community, you may only need to carry out some of the steps or some of the activities that form part of the steps.

Some of the resources provided in the field guide package are only relevant to large communities that have a service provider. For example, the water quality test record sheet is only relevant to communities that regularly have their water tested. Similarly, some resources are only relevant to small communities or outstations. An example is the asset management worksheet for planning the replacement of capital components of the water supply.

## Combining the posters and activity sheets to create the management plan

The management plan is only useful when the people who have been assigned roles and responsibilities can see it regularly in a convenient place. Once the planning process is complete, the community participants may wish to display the posters in key locations around the community. For example, the asset management posters might be displayed in the workshed; the contact information poster might be displayed in the office. Alternatively, the whole series of posters and worksheets can be bound to form a manual. Ask the community what suits them.

Giving copies of the activity sheets to support agencies and service providers will enable them to target their assistance. But it's important that the community keeps its own copies in case of changes in personnel and institutional arrangements.

## Adapting materials to local contexts

The materials that are best accepted by community members are developed on-site and with community participation. So, encourage community participants to add local photos, texts and drawings to the posters and worksheets where possible. This sends an underlying message that the people who are photographed doing an activity are the ones who know about the activity.

The water supply poster series is printed on tear- and water-resistant paper. Other sheets might need to be laminated or covered in clear contact to lengthen their life.



**Figure 3. The posters can be displayed around the community**

## Who you should involve in the planning process

When a water supply is viewed holistically, it includes every source of water, how the water is used and the waste water. With this holistic view in mind, identify the roles and the areas of responsibility held by each agency or organisation that is involved with the community.

There is likely to be a number of agencies involved with the community. A water utility, for example, is usually responsible for providing water services from the main source to the house boundary. They may also be responsible for managing waste water using evaporation ponds. If a community has rainwater tanks attached to the houses, the tanks are likely to be the responsibility of the individual residents, an environmental health agency or the housing association.

Find out who manages the different parts of the water supply, who helps out, and anyone else with a particular interest. Let other stakeholders, such as service providers, know what you are doing and involve them at appropriate stages. It is advisable, for example, to include representatives from support agencies in workshops to discuss the roles and responsibilities as part of Step 4.

Stakeholders to include:

- local water authority
- local council
- health department
- housing association
- planning body
- users of the water supply, including non-residential users (if applicable)
- catchment management authority.