Government of Western Australia
Department of Water

Water quality information sheet 36
July 2016

Securing Western Australia's water future

Drinking water management and protection

This information sheet has been prepared by the Department of Water to explain how contamination risks are dealt with in or near public drinking water source areas (PDWSAs) in Western Australia.

PDWSA is a generic term used to describe water reserves, catchment areas and underground water pollution control areas proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* or the *Country Areas water Supply Act 1947*.

There are more than 120 PDWSAs servicing towns and cities across Western Australia. Each PDWSA has a drinking water source protection report available on the Department of Water's website. These reports consider water quality contamination risks and propose solutions to those risks. Depending on the PDWSA location, water quality contamination risks can come from a wide range of land uses including the mining, light industrial, commercial, petroleum and agricultural sectors and even recreation and urban development. These reports help to ensure the ongoing availability of safe, good quality drinking water to consumers. They have been prepared for over 20 years and are part of a state-wide drinking water source protection program that is consistent with the *Australian drinking water guidelines* (available www.nhmrc.gov.au).

PDWSAs include surface water and groundwater sources that can vary widely in size and shape. For example:

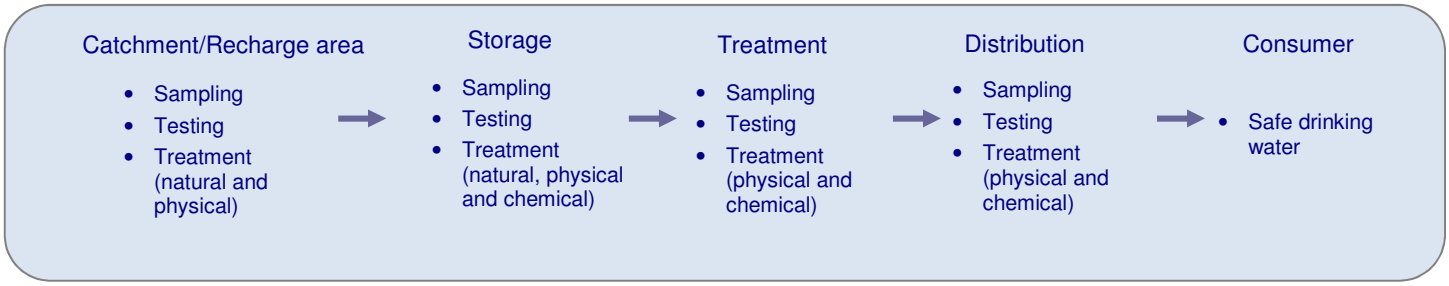
- For confined and semi-confined aquifers, PDWSAs are often small. This is because land uses at the surface present a low risk of contamination to the groundwater due to the location of natural barriers to the flow of contaminants. Additionally, the recharge areas of some PDWSAs can occur many kilometres away from a drinking water bore. In those situations, the proclaimed PDWSA boundary could also be small. Water quality risks, groundwater flow direction, the recharge area, depth of abstraction and travel time are all considered when determining a PDWSA boundary.
- For unconfined aquifers, PDWSAs are often large and require modelling to define boundaries (e.g. Jandakot Underground Water Pollution Control Area).
- For surface water sources, PDWSAs are often large, reflecting the full topographical catchment area of their collection dams.

When assessing water quality contamination risks in or near a PDWSA the Department of Water considers water resource information provided by stakeholders and proponents, and information from its own records. This includes environmental reports and water quality monitoring data from baseline and surveillance monitoring programs.

For many water quality contamination risks the department has developed water quality information sheets, protection notes and guidelines. These are available on the Department of Water's website. Policies are available to guide stakeholders on information required to assess water quality contamination risks (e.g. Western Australian Planning Commission, State Planning Policy 2.7 for public drinking water sources and Department of Water's Policy for Public drinking water source areas).

To deal with contamination risks in PDWSAs, the following best practice drinking water source protection measures are in place across Western Australia:

1. **A statewide PDWSA protection program, consistent with the *Australian drinking water guidelines*.** These guidelines advocate the protection of drinking water from its source through to the consumer's tap. By applying a combination of catchment protection and treatment, water provided to consumers is safe to drink.
2. **Independent sampling, testing and treatment of drinking water, undertaken by licensed water service providers.** This occurs at the catchment, treatment, storage and distribution stages of public water supply systems. This monitoring is in addition to industry monitoring programs. It means that water from a PDWSA is subject to multiple levels of testing before it is provided to consumers – no matter where a risk may come from.
3. **Sampling, testing and treatment programs that are modified in response to changes in water quality contamination risks.** This maximises the capacity to detect contaminants.
4. **An independent committee that examines the quality and safety of a water source, including drinking water quality monitoring results.** This committee comprises the Department of Health (chair), Department of Water and water service providers. It considers drinking water quality contamination risks and regular monitoring results across the state.
5. **Timely responses to contamination or changes detected in a water monitoring program.** If contamination occurs the groundwater monitoring program undertaken by a proponent, or the independent monitoring and treatment programs undertaken by a water service provider, will provide time to respond and ensure the safety of drinking water provided to consumers.
6. **Multiple contingencies for safe drinking water supply.** In the event water quality from a PDWSA is impacted due to environmental or man-made change (e.g. drought impacts on water quality due to low water levels in a dam, or a chemical spill near a public drinking water bore), an ongoing supply of safe drinking water to towns and cities across Western Australia will still be achieved. If required, options could include additional water treatment, bringing bottled drinking water into communities or development of an alternative water source (e.g. a new bore).



For more information, see:

1. *Australian drinking water guidelines (used across Australia by health, water and environment agencies)*
2. *Water made clear (a consumer's guide to the Australian drinking water guidelines)*
3. *Using bore water safely* and *Bore water on Department of Health's website*

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