

Identifying and protecting groundwater-dependent ecosystems in the Great Artesian Basin

Groundwater-dependent ecosystems are those that need access to groundwater to maintain their plant and animal communities and ecological processes.

Water sharing plans for groundwater contain a schedule and map that identifies high-priority, groundwater-dependent ecosystems. Water sharing plans also include rules to protect these ecosystems, such as restrictions on the construction of groundwater bores within specified distances of the groundwater-dependent ecosystems.

The Department of Planning, Industry and Environment recently completed a program to identify and prioritise groundwater-dependent ecosystems in NSW.

The *High probability GDE method report* details the method used and is available from www.industry.nsw.gov.au/water/science/groundwater/ecosystems.

We have also done additional work in the Great Artesian Basin to better understand the location of springs, as well as their ecological and hydrogeological features. A report on the site selection methodology is available from the department's website.

Management of groundwater-dependent ecosystems

Proposed changes to the current rules in the draft *Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2020* to manage groundwater-dependent ecosystems include:

- adding the extent of the recently identified, potential high-priority groundwater-dependent ecosystems (vegetation communities) onto the High-priority Groundwater-dependent Ecosystem Map for the water sharing plan (shown in Figure 1)
- applying setback distance rules for new or amended water supply works (including basic landholder rights bores) to these recently identified potential high-priority groundwater-dependent ecosystems.

The proposed distances from a high-priority groundwater dependent ecosystem (mapped groundwater dependent vegetation ecosystems) are:

- 100 metres in the Eastern and Southern Recharge Groundwater Sources for bores taking water solely under basic landholder rights
- 200 metres in the Eastern and Southern Recharge Groundwater Sources for all other bores.

Setback distance rules from high-priority groundwater-dependent ecosystems (springs) for works taking water solely under basic landholder rights in the Eastern and Southern Groundwater Sources have been simplified, indicated in Table 1.

Table 1. Current and proposed distances from springs for works taking under basic landholder rights in the Southern and Eastern Recharge Groundwater Sources

Groundwater Source	Current distance in water sharing plan	Proposed distance recommended
Eastern & Southern Recharge	1,000 m < 20 ML/year	1,000m
	5,000 m > 20 ML/year	

All other setback distance rules from high-priority groundwater-dependent ecosystems (springs) have not changed and remain the same as the current plan.

In the Eastern & Southern Recharge Groundwater Sources the distances retained are:

- 1,000m for works authorised to take up to and including 20ML/year under an access licence
- 5,000m for works authorised to take over 20ML/year under an access licence
- 5,000m for works used to take water under a local water utility access licence

In the Surat, Warrego and Central Groundwater Sources the distances retained are:

- 50,000m for works used to take water under an access licence
- 50,000m for works used to take water solely for basic landholder rights

The setback distance rules will not apply to a water supply work used only for monitoring, environmental remediation activities or emergency services, or to replacement groundwater works. A replacement groundwater work is defined in the draft *Water Sharing Plan for the NSW Great Artesian Groundwater Sources 2020*.

The department will make an initial assessment of applications for new water supply work approvals located within the default setback distances. Water users may have the opportunity to mitigate potential impacts on high-priority groundwater-dependent ecosystems through conditions on the work approval. These could include conditions such as grout-sealing the work to a specified depth, setting extraction limits, or changing the proposed location.

If the initial assessment does not identify adequate mitigation measures, the department may require you to submit more information, for example, a hydrogeological study, to support the application. The department will consider this additional information before the application is determined.

Where a water supply work is currently located within the default setback distances, the work can continue to be used. If it becomes clear that there is a decline in the condition of the nearby groundwater-dependent ecosystem, the department will investigate the cause and possible remedial actions. These will be discussed in consultation with the water supply work approval holder.

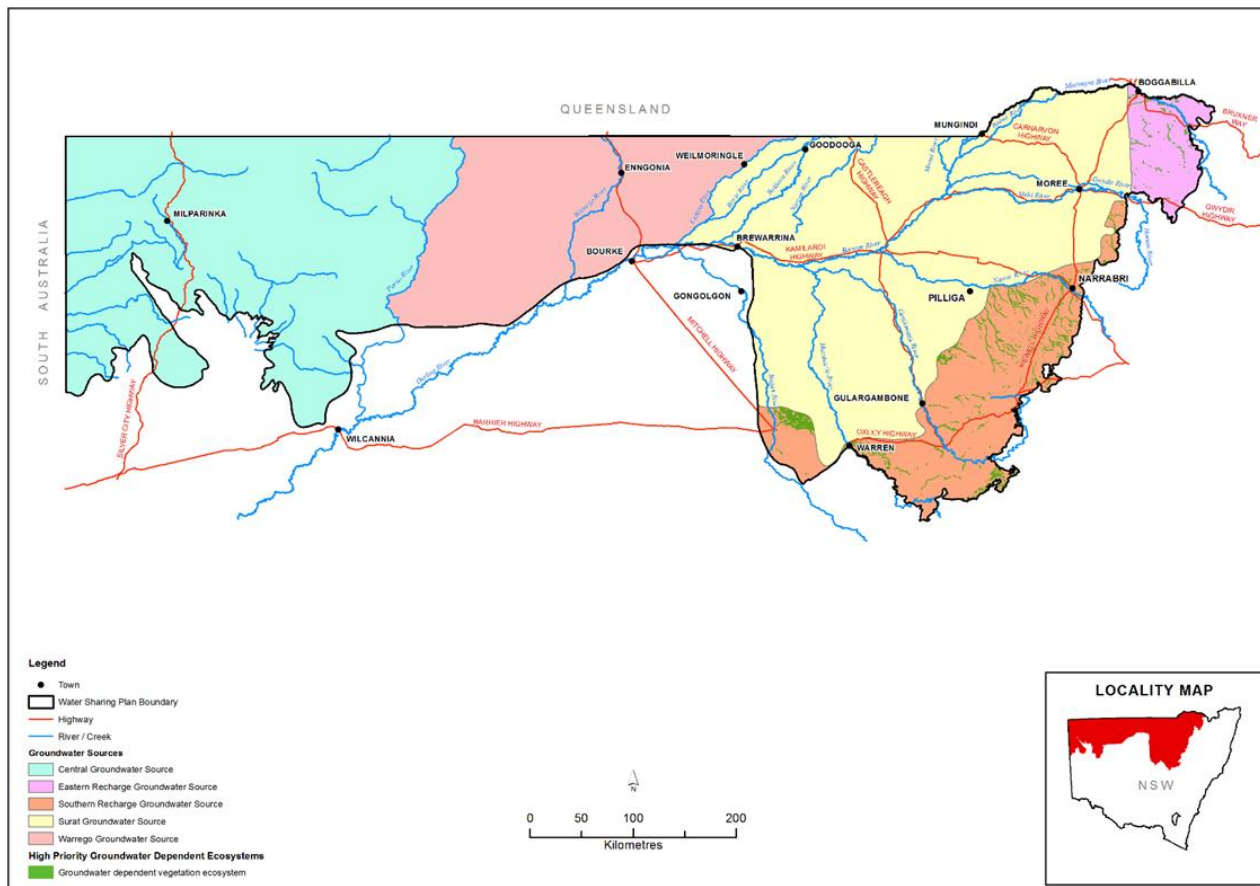


Figure 1: High-priority groundwater-dependent ecosystems (vegetation communities) of the NSW Great Artesian Basin

See the draft *Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2020* for the list of high-priority groundwater-dependent ecosystems (springs).

More information

The draft NSW Great Artesian Basin Water Sharing Plan 2020 and other fact sheets are available from www.industry.nsw.gov.au/water/plans-programs/water-sharing-plans/water-sharing-plans-on-public-exhibition/gab