



Government of Western Australia
Department of Water

Jurien Water Reserve

Drinking water source protection review

Jurien town water supply



Looking after all our water needs

Water resource protection series
Revised Report WRP 130
June 2011



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Revised Report no. WRP 130 (amends WRP 109 published in 2009)

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For more information about this report, contact the Water Source Protection Branch at the Department of Water, on +61 8 6364 7600 or drinkingwater@water.wa.gov.au.

Cover image – existing bores in proposed Jurien Water Reserve

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Preface

This *Jurien Water Reserve drinking water source protection review (2011)* updates and amends the *Jurien Water Reserve drinking water source protection plan (2009)* published by the Department of Water. This review reflects the outcome of ongoing stakeholder consultation since the 2009 plan was published.

Stages leading to the preparation of this drinking water source protection review are outlined in the table below.

Stages		Comment
1	Original water source protection plan published (Report No. WRP 9). (1999)	Prepared after initial catchment survey and preliminary information gathering.
2	Conduct stakeholder consultation. (2007-2008)	Advice sought from key stakeholders using the previous protection plan as a tool for information and discussion.
3	Prepare draft drinking water source protection plan. (Jan-April 2008)	Draft protection plan developed taking into account input from stakeholders.
4	Release draft drinking water source protection plan. (May-June 2008)	Draft protection plan released for a six-week public consultation period.
5	Publish drinking water source protection plan (Report No. WRP 93). (December 2008)	This protection plan was published after considering all submissions received on the draft plan.
6	Publish updated drinking water source protection plan (Report No. WRP 109). (December 2009)	This plan replaced the December 2008 published plan. It reflected the Minister for Water's decision to change some Priority 1 (P1) areas within the proposed water reserve to Priority 2 (P2) areas. Those decisions were reflected in a March 2009 Ministerial media statement.
7	Publish drinking water source protection review (Report No. WRP 130) 27th June 2011 (Revised 30th June 2011)	This review updates and amends the December 2009 published Plan. Proclamation of the Jurien Water Reserve is recommended to be progressed based on the boundary shown in Figure 3 of this review.

1 Jurien Water Reserve drinking water source protection plan update

This drinking water source protection review (2011) updates and amends the Department of Water's drinking water source protection plan published in December 2009. The 2011 review needs to be read alongside the 2009 plan.

Jurien is located 266 km north of Perth (Figure 1) and currently obtains its water supply from a well field 4 km north of the town.

The 2009 plan found that a projected increase to the population of Jurien would require a substantial increase in water supply. An investigation undertaken by the Water Corporation determined the increased water supply could be met by expanding the size of the existing Jurien well field and, if required, by adding bores to the Cervantes well field.

The above investigation also developed a model to determine the full recharge area for the expanded Jurien well field (Figure 2). This recharge area includes a shallow aquifer and limestone resource. Both these characteristics mean that the aquifer is vulnerable to contamination from above-ground land uses.

Based on the above information, the 2009 Plan recommended that the whole of the recharge area should be proclaimed as the Jurien Water Reserve. However, in response to ongoing concerns raised by key stakeholders who own rural-zoned land in this recharge area, the department determined that a modified water reserve boundary could be applied (Figure 3). The large area of Priority 1 (P1) Crown land between the planned well field and the eastern edge of the proposed water reserve will provide a natural water quality protection buffer. If groundwater contamination occurs it will be attenuated by natural physical, chemical and biological processes over the period of time it would take for a contaminant to travel to the bores. Based on modelling this would take on average 50 years from the eastern edge of the proposed water reserve.

The 2011 proposed Jurien Water Reserve boundary will continue to provide for the protection of water quality and ensure the availability of a reliable and safe drinking water to consumers in Jurien now and in the future.

2 Recommendations

The following recommendations apply to the proposed Jurien Water Reserve (Figure 3). The bracketed stakeholders are responsible for implementation of these recommendations.

This recommendation replaces recommendation 1 in the 2009 plan:

1. The boundary of the proposed Jurien Water Reserve (Figure 3, June 2011) should be proclaimed under the *Country Areas Water Supply Act 1947* (WA). (Department of Water)

This recommendation replaces recommendation 3 in the 2009 plan:

3. The Shire of Dandaragan's local planning scheme should consider the 2009 plan (as amended by this review) and include the proposed Jurien Water Reserve boundary, P1 area, P2 area and wellhead protection zones (Figure 3, June 2011) as a *special control area* consistent with the Western Australian Planning Commission's Statement of planning policy no. 2.7: *Public drinking water source policy*. (Shire of Dandaragan)

3 Figures

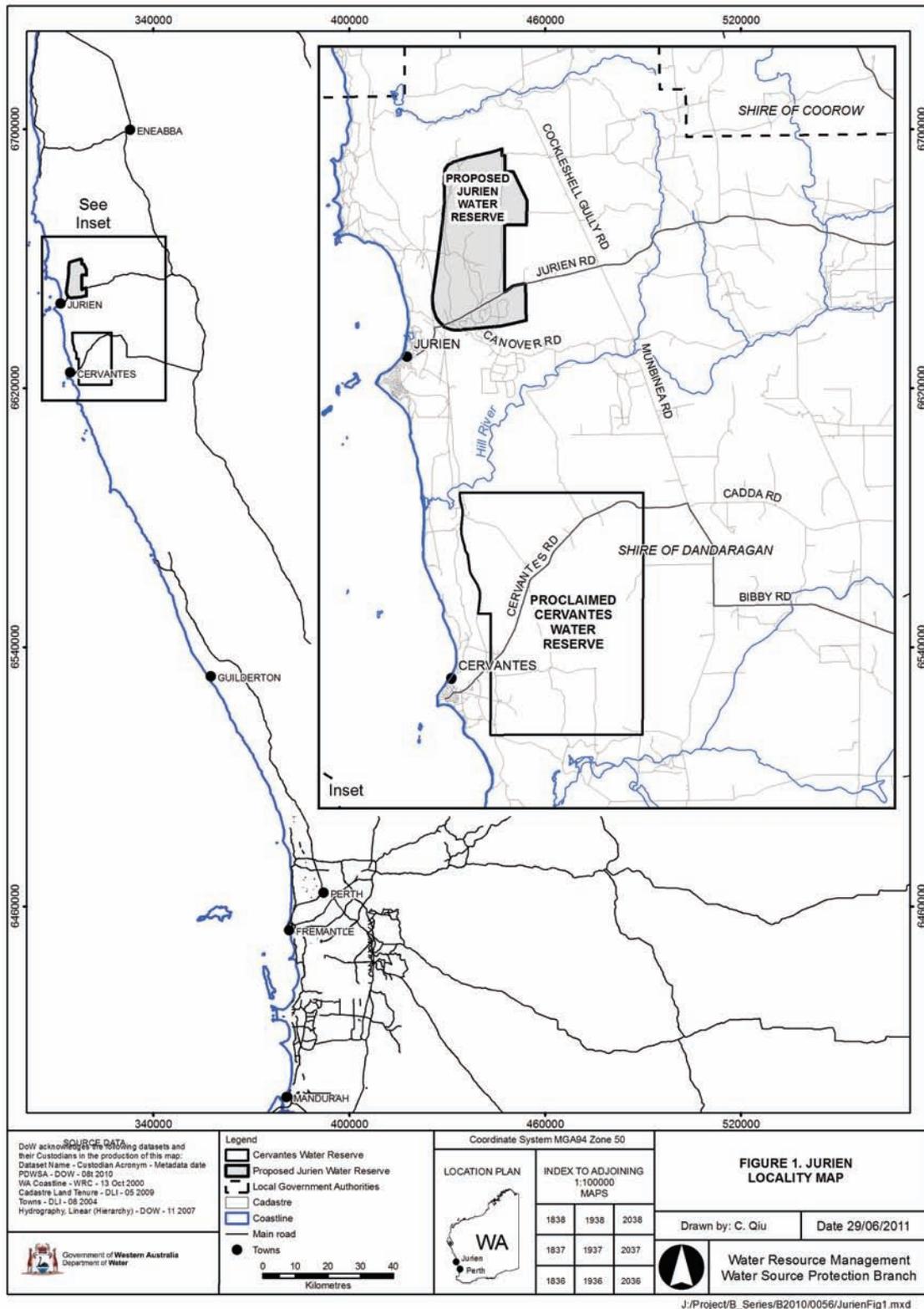


Figure 1 – Jurien locality map

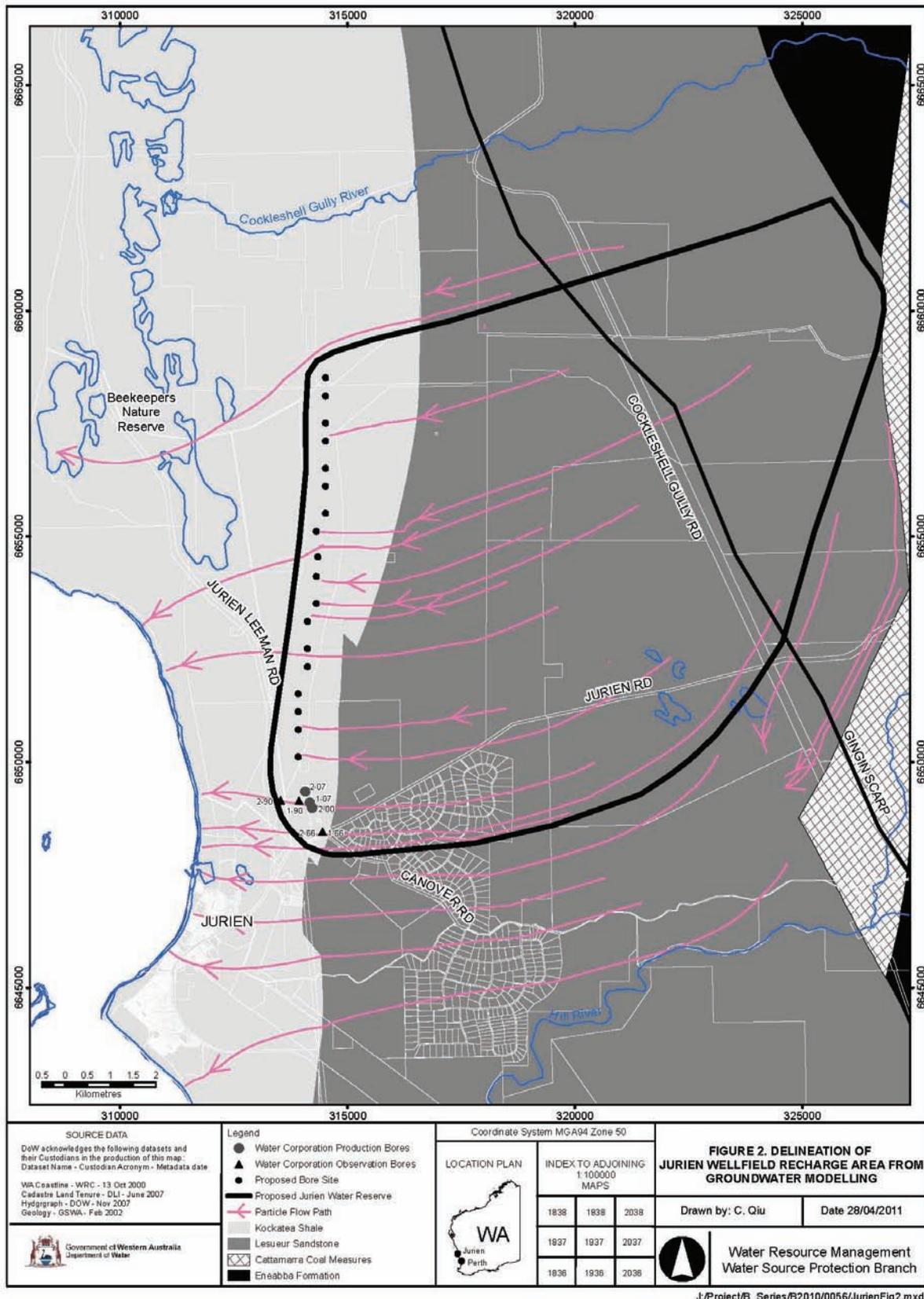


Figure 2 – Jurien well field modelled recharge area

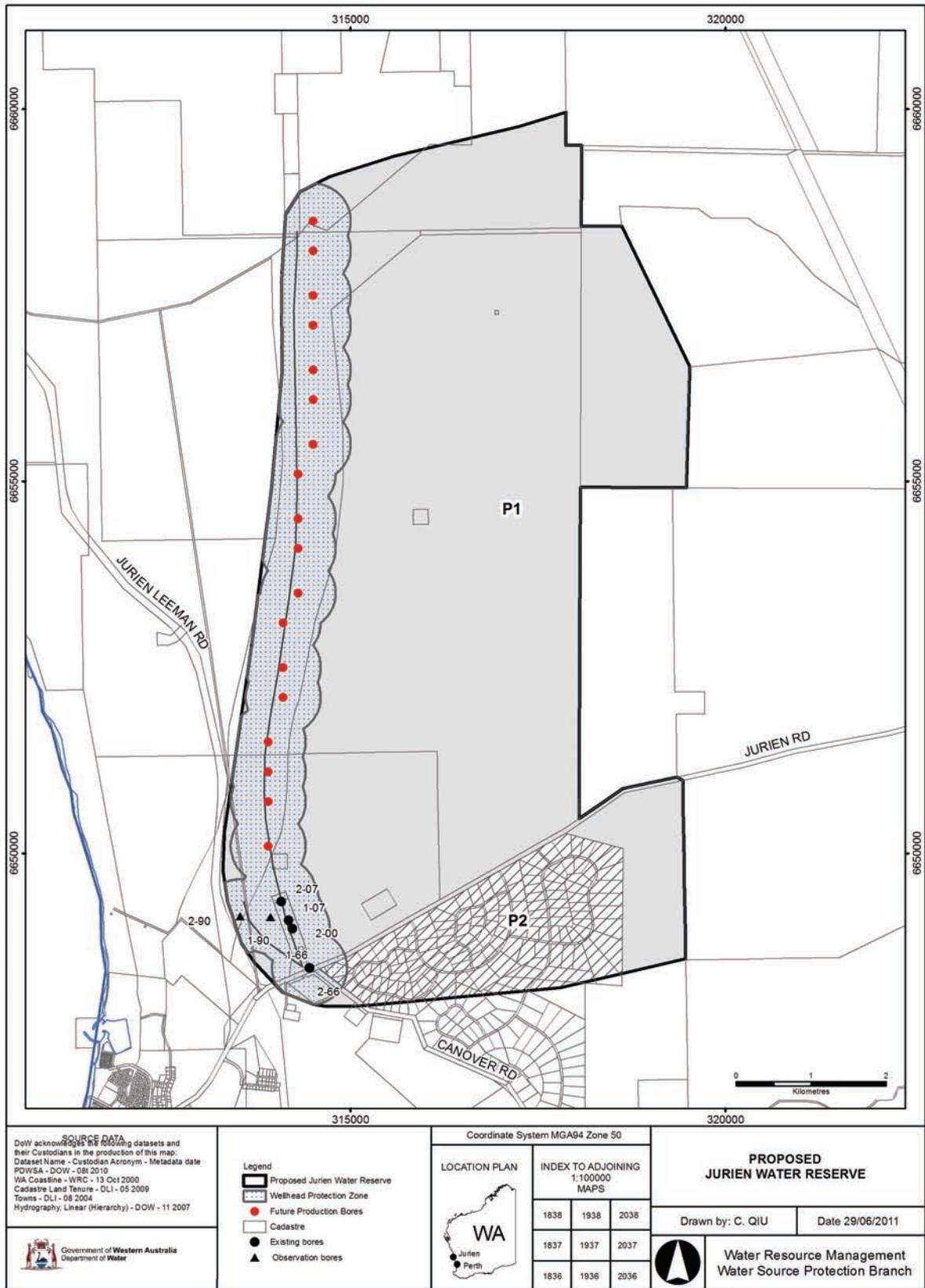


Figure 3 – Proposed Jurien Water Reserve boundary, priority areas (P1 and P2) and wellhead protection zones (June 2011)

References

Department of Water 2009, *Jurien Water Reserve drinking water source protection plan*, WRP 109 December 2009, Department of Water, Perth, available <<http://drinkingwater.water.wa.gov.au>> and scroll down to the link for drinking water source protection plans.

Government of Western Australia 1947, *Country Areas Water Supply Act (WA)*, reprinted under the *Reprints Act 1984* as at 14 April 2008, available <www.slp.wa.gov.au/legislation/statutes.nsf/main_mrtitle_208_homepage.html>.

Western Australian Planning Commission 2003, Statement of planning policy no.2.7: *Public drinking water source policy*, Government Gazette Western Australia, 10 June 2003, pp. 2077-82, Government of Western Australia, Perth, available <<http://www.planning.wa.gov.au/Plans+and+policies/Publications/149.aspx>>.

The background is a solid blue color with several large, overlapping, curved shapes in lighter shades of blue, creating a sense of movement and depth. These shapes are positioned in the upper and middle sections of the page, leaving the lower right corner clear for text.

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