

Consultation report

Water Act 2000

Baseline assessments guideline (version 3.00)

This report summarises submissions, and the Department of Environment and Heritage Protection's response to these submissions, received as part of targeted industry consultation for version 3.00 of the guideline Baseline assessments (ESR/2016/1999).

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Executive summary

This report summarises the results of targeted consultation undertaken between July and October 2016 on proposed changes to the guideline Baseline assessments (ESR/2016/1999) (the guideline)¹ under the *Water Act 2000* (Water Act). This report outlines the key issues raised during consultation and the Department of Environment and Heritage Protection's (the department's) responses to these issues.

Version 3.00 of the guideline, under section 395 of the Water Act, took effect on 02 March 2017. Under section 395 of the Water Act, the chief executive may make guidelines about the minimum requirements for undertaking a baseline assessment.

On the 6 December 2016, the *Water Reform and Other Legislation Amendment Act 2014* (WROLA Act) expanded Chapter 3 of the Water Act to apply to both petroleum and mining tenure holders.

The revised guideline clearly establishes that baseline assessments are undertaken by resource tenure holders (both petroleum and mining tenure holders to which Chapter 3 of the Water Act applies), clarifies which components of the previously approved guideline are minimum requirements for undertaking a baseline assessment and includes a number of minor, clarifying amendments.

The department conducted targeted consultation with a range of stakeholders on the proposed changes to the guideline and a broad range of feedback informed the department's decision to proceed with the amendments to the revised guideline.

¹ This guideline is available on the Queensland Government website at www.qld.gov.au, using the publication number 'ESR/2016/1999' as a search term.

1 Context

A baseline assessment is undertaken by a resource tenure holder to obtain information about the bore including:

- the level and quality of water in the bore;
- how the bore is constructed; and
- the type of infrastructure used to pump water from the bore.

Undertaking a baseline assessment includes analysing the data obtained during the assessment to establish the three matters mentioned above.

A baseline assessment is intended to establish benchmark data prior to the bore experiencing any impact.

Prior to version 3.00, the guideline applied to petroleum tenure holders only and did not clearly establish which requirements were considered minimum requirements. The WROLA Act also inserted a provision that makes it an offence for a resource tenure holder to fail to comply with the Baseline Assessment Guideline when undertaking a baseline assessment.

Under section 395 of the Water Act, the department may consult with entities it considers appropriate before making guidelines. The department therefore undertook targeted consultation with stakeholders to revise and clearly articulate the minimum requirements for undertaking a baseline assessment, and to provide mining tenure holders which are now subject to obligations under Chapter 3 of the Water Act with an opportunity to comment on their new obligations.

2 Consultation

Targeted consultation on the proposed changes to the guideline was undertaken between July 2016 and October 2016, with the department emailing stakeholder and requesting formal submissions. Formal submissions were received from:

- AgForce Queensland
- Arrow Energy Pty Ltd
- Australian Petroleum Production & Exploration Association
- Gasfields Commission Queensland
- Origin Energy Pty Ltd
- Shine Lawyers
- QGC Pty Ltd
- Queensland Farmers Federation
- Queensland Resources Council

2.1 Results of consultation and response

All submissions were considered in developing the revised guideline, and key issues raised by submitters have been summarised below.

Table 1 below summarises the submissions received which were within the scope of the current review, along with the department's response.

A number of submissions were also made which the department considers to be outside the scope and purpose of the current review of the guideline. These submissions have been included in this report and are listed in Table 2, along with the department's response.

2.2 Summary of submissions and responses

Table 1: Submissions made within the scope of current review

Summary of submission	Response to submission
<p>Two submissions highlighted the importance that data for a baseline assessment be obtained accurately and with integrity due to legal implications for quantifying 'make good' obligations. The submissions supported the requirements of suitably qualified persons conducting the field assessment component of the baseline assessment, however suggested that the disciplines of hydrogeology/engineering needed to be clarified to ensure the person possessed the specific skills required to undertake the assessments.</p> <p>In addition, there was concern that removing the requirement that field verification must be conducted on at least 10% of assessments will reduce the integrity of the certification process and that an independent third party certifier should be present at all assessments.</p>	<p>The department agrees with the comment highlighting the importance of obtaining accurate baseline assessment data, and considers the provisions under section 396 of the Water Act that require a resource tenure holder to comply with the relevant guidelines (Baseline assessments (ESR/2016/1999)) reflect the importance of adhering to these guidelines and the responsibilities of resource tenure holders.</p> <p>The department notes the comments in favour of maintaining minimum requirements for the persons undertaking the baseline assessments and has amended the guideline to clarify that, as a minimum requirement, the persons conducting the field measurements required for a baseline assessment possess a minimum of two years prior experience in <i>any</i> one of the following fields:</p> <ul style="list-style-type: none"> (a) underground water level monitoring programs, including monitoring of water level in bores equipped with pumping infrastructure; (b) the conduct of underground water quality sampling programs; and (c) hydrogeology and/or engineering. <p>In addition the persons must also have a practical knowledge of water bore construction and infrastructure. These requirements allow flexibility and recognise the range of different experience combinations which are suitable as minimum requirements for conducting field measurements.</p> <p>Skills and experience of persons conducting field measurements and quality assurance of baseline data collected is verified by the minimum requirements that the baseline assessment must be either conducted by, or certified by an independent third party and this person must possess a minimum of five years experience in the above relevant criteria.</p> <p>The department notes the comment expressing concerns regarding removing requirements that field verification must be conducted on 10% of assessments. The guideline must be followed for each individual baseline assessment, and minimum requirements cannot apply to more than one baseline assessment. However, although not</p>

Summary of submission	Response to submission
	<p>a minimum requirement, the guideline does continue to recommend that field verification on 10% of all assessments is good practice and should be considered.</p> <p>The department considers that the minimum requirements of the guideline for the resource tenure holder develop and adhere to a formal quality assurance program, along with the minimum qualification standards for persons conducting the field measurements and certification from an independent third party will ensure appropriate standards are maintained. In consideration of this, the department also considers that requiring an independent third party present in the field for all baseline assessments to be an exorbitant requirement in proportion to the additional benefits it would achieve.</p>
<p>One submission stated that government guidelines such as these should not reference proprietary software.</p>	<p>The department notes the comment suggesting that proprietary software should not be referenced in government guidelines, and accordingly, has removed the reference to ESRI Geographic Information Systems.</p>
<p>One submission received stated that bore registration numbers (RN) sometimes can not be found or matched to a location on the ground, which could lead to a tenure holder facing penalties for not meeting obligations for a baseline assessment.</p>	<p>Section 400 of the Water Act requires that a resource tenure holder must undertake a baseline assessment by the day stated in the holder's approved baseline assessment plan, unless the holder has a reasonable excuse. Alternatively, a resource tenure holder, if given a direction by the chief executive under section 402 of the Water Act to undertake a baseline assessment by a specified date, must comply with the direction unless the holder has a reasonable excuse.</p> <p>The department notes the submission expressing concerns that on occasion, a bore RN number may not be found or that an identified RN cannot be matched to a location on the ground. The department does not consider that further amendments to the guideline are required as the guideline currently acknowledges these situations and consequently requires that the responsible tenure holder assign a unique identifier (Bore ID) for cross referencing purposes. The guideline only recommends that the RN be recorded separately as additional information for cross referencing where it is known. In addition, if there is doubt over the RN, than commentary around the confidence level or accuracy should be provided to accurately identify the bore in the future.</p> <p>If the tenure holder identifies difficulties relating to cross referencing a bore or determining its location on the ground, the above information recorded in the baseline assessment will inform the department when considering if the tenure holder has met its obligation to</p>

Summary of submission	Response to submission
	undertake a baseline assessment under either section 400 or 402 of the Water Act.
Two submissions received requested that Part B—Bore construction information of the guideline be amended to delete the recommendation to use the capacity data obtained at the time of drilling, and that a capacity assessment at the time of baseline assessment is preferential in determining bore yield. In particular, one submission expressed concerns that the reference to the Minimum construction standards for water bores in Australia (National Uniform Drillers Licensing Committee 2011, 2012) is problematic as these standards were written in 2012, long after most bores were drilled and that many bores would not have had the information suggested in those standards recorded.	<p>The department acknowledges the submission however does not consider amendment to the guideline necessary as recording the capacity data at the time of drilling is a recommendation (not a minimum requirement). The department encourages the collection of potentially useful information which may be utilised when comparing historical information, informing the baseline assessment, assist in the development of underground water data modelling and assist in the resolution of any future disputes that may arise between bore owners and resource tenure holders following a bore assessment or in the negotiation of a make good agreement.</p> <p>The Minimum construction standards for water bores in Australia (National Uniform Drillers Licensing Committee 2011, 2012) is referenced to support that the bore's capacity is expected to be established at the time of drilling. The department acknowledges that these standards or even previous versions may not have been applicable at the time of drilling some water bores. In addition, the department acknowledges that the standards only recommend the recording of capacity data and that it has not been a mandatory requirement for water bore drillers to record this information.</p>
Two submissions received expressed concerns that the bore construction information that is required under Part B—Bore construction information of the guideline is not always available, and the guideline should be amended to state that resource tenure holders are only required to take reasonable endeavours to obtain this information.	<p>The department acknowledges the submissions expressing concerns that bore construction information required as part of a baseline assessment is not always available. However, the department notes that similar to all requirements of the guideline, resource tenure holders can only exercise reasonable endeavours to comply with the requirements of a baseline assessment. In fact, the guideline specifically states that if this information is not available, the department considers this to be a reasonable excuse for not including the information in the baseline assessment.</p> <p>If there are aspects of the baseline assessment that cannot be met and the resource tenure holder should demonstrate the reasonable steps taken, and record this information include in the notice of outcome.</p>
One submission suggested that due to variation between jurisdictions, the water consumption estimates provided in Appendix 1 of the guideline, should be accompanied with references if further information is required around consumption rates.	A reference to the source of this water consumption data in Appendix 1 has been included.

Summary of submission	Response to submission
<p>One submission suggested that Part D—Bore supply information of the guideline be amended to state that if volumetric usage of the bore is unavailable, the figures listed in Appendix 1 should be applied only if the landholder can provide supporting information confirming that level of usage.</p>	<p>The department notes the submission that if volumetric usage information is unavailable, the information in Appendix 1 should be used only if the landholder can supply the relevant supporting information. Accordingly, the department has amended Part D to state that, under section 404 of the Water Act the resource tenure holder may ask an owner of land for any information required to undertake a baseline assessment and accordingly if the bore owner has that information, the bore owner has an obligation to provide that information to the resource tenure holder.</p>
<p>Two submissions suggested that one-off water level measurements could be misleading due to natural variation and influence by rainfall and discharge, and suggested multiple assessments may provide a better understanding of baseline conditions.</p>	<p>Baseline assessments are established as one-off assessments to provide information about the current condition and pumping capacity of a water bore and to provide a reference point for comparison with subsequent bore assessments to assist in the negotiation of make good agreements.</p> <p>If the resource tenure holder considers that factors such as rainfall and discharge may result in non-representative water level measurements, the resource tenure holder should include any relevant comments in the baseline assessment. Alternatively, the baseline assessment should be rescheduled for another time when a representative water level can be obtained.</p> <p>In addition, when information obtained from baseline assessment is utilised to inform a bore assessment (and subsequent make good agreement), the resource tenure holder must also consider the extent to which other factors such as rainfall, discharge and other natural variations influence potential declines in water levels if it has been proven that the exercise of the underground water rights is not the cause, or has not materially contributed to a decline in water levels at the location of the bore.</p>
<p>Two submissions suggested that, as obtaining a standing water level (SWL) is not always possible, that it would be more reasonable for Part E—Water level measurement of the guideline to state that "best endeavours should be used to obtain SWL information".</p> <p>One submission suggested that if a bore is in an unfit state to safely conduct a baseline assessment, and a bore owner still requires a baseline assessment to be undertaken, the assessment should be undertaken at the bore owner's risk. It was suggested that this should be clearly explained in section 1.5 Bore owner responsibilities of the guideline.</p>	<p>Section 394 of the Water Act states that a baseline assessment is an assessment of a water bore undertaken by a resource tenure holder to obtain information about the bore, including the level and quality of water in the bore. This is an essential component of the baseline assessment and the make good framework in Chapter 3 of the Water Act. Therefore the requirement to record a SWL in the baseline assessment is specified as a minimum requirement of the guideline.</p> <p>The department notes in the guideline that there may be circumstances where it is not practicable to safely obtain a SWL. For instance, the bore may be pumping at the time of</p>

Summary of submission	Response to submission
	<p>inspection or significant modification or damage may occur to the bore (e.g. pulling windmills) if a meaningful SWL was to be obtained.</p> <p>The guideline recommends that the resource tenure holder consult with the bore owner to either determine the appropriate method for safely obtaining the SWL and/or to reschedule the time at which the SWL can be taken (e.g. the time which the bore owner has scheduled bore maintenance to be undertaken).</p> <p>In these circumstances the resource tenure holder should provide reasons for not obtaining this information to demonstrate what efforts were made to meet the requirements of the guideline.</p>
<p>One submission commented that the procedure outlined in Part F—Water quality assessment of the guideline to purge three times the bore volume when sampling is sometimes impractical, as landholders are often unwilling to facilitate this. The submission also stated that this can be unnecessary if the bore is in regular use, and therefore this should be recognised in the minimum requirements table of Part F.</p>	<p>The department notes the submission and acknowledges that it is not always feasible to purge three times the bore volume prior to sampling.</p> <p>If the bore is pumping at the time of the baseline assessment or being used to such a regular extent that there is not stagnant water within the bore casing, then it is likely that requirement 6.a. under Part F will be met. This is because requirement 5. under Part F requires that, prior to sampling a water bore, the volume of stagnant water within the bore casing and discharge piping (upstream of the sampling point) must be calculated. If it is calculated that there is zero volume of stagnant water because the bore is currently in use, then the bore will not be required to be purged under requirement 6.a. (i.e. $3 \times 0L = 0L$).</p> <p>The guideline recommends that the resource tenure holder and bore owner should reach agreement on the most appropriate place to obtain a sample the will be representative of the water bore. If the resource tenure holder experiences difficulty negotiating the details of sampling, the guideline (see section 3.6.8 Rescheduling of water sampling) also recommends that the bore owner and the resource tenure holders may agree on another time for obtaining the sample. Both parties should formally record the agreed rescheduled timeframe.</p> <p>In addition, the rescheduled timeframe must be within the timetabled date in the relevant approved BAP, or if this is not possible, the BAP should be amended for the new agreed timeframe.</p> <p>Should the bore owner choose not to reschedule the time for water quality sampling, the</p>

Summary of submission	Response to submission
	resource tenure holder must record this within the results of the baseline assessment to support why a sample was not collected.
One submission stated that due to the remote location of some sites, compliance with quality assurance (QA) holding times when sampling will be impractical, unless a helicopter is used to transport samples.	The department notes the submission expressing concerns that for remote sites, it may be difficult to process samples within timeframes recommended for QA. Where a resource tenure holder cannot meet timeframes for transportation of sample, this should be provided as commentary on the baseline assessment particularly when analysing data to determine the quality of water in the bore. Commentary on the quality assurance of the sample should be included when discussing the results.
One submission received expressed concerns that it can be difficult for the resource tenure holder to obtain the information required in Part I—Property owner/manager details of the guideline, as sometimes the landowner (or property manager) will not provide personal information to the assessing officer.	The guideline requires the contact details of any person responsible for providing information to the resource tenure holder as this will assist in validating information submitted in the baseline assessment. The department notes that, on occasion, the landowner (or property manager) may not wish to provide personal contact information. It is important to note that any personal information that is collected from a baseline assessment is subject to the <i>Information Privacy Act 2009</i> and will not be disclosed to a third party by the Queensland Government unless authorised or required by law.

Table 2: Submissions made outside of the scope of the current review

Summary of submission	Response to submission
<p>Two submissions were received providing suggestions to clarify the commencement of the 30 day period to provide the outcome of a baseline assessment form (as required under section 405 of the Water Act).</p>	<p>The department notes the comments made regarding the commencement of the 30 day period to provide the form Outcome of baseline assessment (ESR/2016/1918) as required under section 405 of the Water Act. This is a legislative requirement, not a minimum requirement specified in the Baseline Assessment Guideline.</p> <p>Consequently, an amendment to the guideline is not necessary as section 1.6 Outcome of baseline assessment form clarifies the department's position that the baseline assessment is completed once laboratory results are received and have been analysed. Responsible tenure holders must be able to provide evidence of when a baseline assessment was completed when demonstrating compliance with section 405 of the Water Act.</p>
<p>Three submissions stated the need for certainty regarding authorised bores to which Chapter 3 of the Water Act applies, particularly in relation to stock and domestic bores.</p> <p>One submission expressed concerns that many bores are abandoned or not fit for intended uses, and therefore any impacts that have been affected by resource activities should be disregarded, as the bore was not being used prior. The submission suggests that consequently, Part C—Bore equipment and condition details of the guideline should include a statement explaining that impacts from water extraction should not be considered relevant where the bore was not being used for prior.</p>	<p>The department notes the comments made however considers that section 363 of the Water Act adequately clarifies which water bores to which Chapter 3 applies. As noted in section 1.1 of the guideline, an authorised water bore includes water bores for which the taking or, or interference with water is authorised under the Water Act, and if required, a development approval has been granted under the <i>Sustainable Planning Act 2009</i> (or was granted under the repealed <i>Integrated Planning Act 1997</i>). This includes water bores from which the taking or interference with water is authorised without the requirement for a water entitlement under section 20 of the Water Act. However, in accordance with section 363 of the Water Act, the requirements for Chapter 3 do not apply to a water bore if it is only used for water monitoring.</p>
<p>One submission suggested that baseline data should be collected for all bores surrounding a resource project, rather than only those bores that the resource tenure holder's predictions identify as likely to be impacted.</p>	<p>The department notes the comment regarding the baseline assessment of all bores surrounding a resource project however the department considers the timing requirements for baseline assessments are adequately addressed by the legislative framework.</p> <p>This includes section 398 of the Water Act which states the minimum timing requirements for when a baseline assessment must be undertaken for each water bore located on a resource tenure. In addition, if an underground water impact report identifies water bores located outside the tenure that are also in the long term affected area (LTAA), section 378 of the Water Act requires that the water monitoring strategy include a program for conducting baseline assessments for those water bores located off tenure.</p>

Summary of submission	Response to submission
<p>Two submissions requested clarity on the timing of when information is collected in a baseline assessment relative to commencement of resource activities with concerns raised that baseline data is often collected after the exercise of underground water rights has occurred.</p>	<p>The department notes the comments regarding the timing of baseline assessments however the department considers that these requirements are adequately addressed under section 398 of the Water Act and the requirement for resource tenure holders to comply with an approved baseline assessment plan.</p> <p>Section 398 provides that for each water bore located in a petroleum tenure, a baseline assessment must be undertaken by the earliest of the following unless agreed to in writing by the water bore owner:</p> <ul style="list-style-type: none"> • before production testing starts if the bore is located within 2km of the production testing and that testing will take water from the aquifer which supplies the water bore; • before production of petroleum starts in the are of the bore; or • the day after a period of 30 days, whether continuous or not, of undertaking production testing in the area of the bore. <p>For mining resource tenures to which Chapter 3, Part 3 of the Water Act applies, section 398 states that a baseline assessment must be undertaken for each water bore before the exercise of underground water rights.</p> <p>It should also be noted that, under section 402 of the Water Act, the chief executive may direct a resource tenure holder to conduct a baseline assessment by a specified day.</p>
<p>One submission received requested clarification on the level of penalties for not following guidelines. In particular, concern was raised about the level of penalty for not providing baseline assessment information to the bore owner and government in relation to the penalty for not following the guideline.</p>	<p>The department notes the comment requesting clarification of penalties for not following guidelines for baseline assessments.</p> <p>Penalties for failing to undertake baseline assessments are addressed in the relevant sections of the Water Act.</p> <ul style="list-style-type: none"> • Failure to comply with the guideline Baseline assessment (ESR/2016/1999) when undertaking a baseline assessment (section 396 of the Water Act) can result in a maximum penalty of 50 penalty units for an individual and 250 penalty units for a corporation. • Failure to provide a notice of outcome of a baseline assessment (section 405) results in a maximum penalty of 500 penalty units for an individual and 2,500 penalty units for a corporation.

Summary of submission	Response to submission
	<p>Note that under section 181B of the <i>Penalties and Sentences Act 1992</i> a court may impose a maximum penalty for a corporation of five times the maximum fine for an individual.</p>
<p>One submission received requesting clarification regarding how water quality impacts, independent of a water level decline, are managed under the <i>Environmental Protection Act 1994</i>, and how this is incorporated within the 'make good' framework'.</p>	<p>The department notes the comments requesting clarity around bore impairment regardless of water level decline. This is addressed in the guideline Bore assessments (ESR/2016/2005).</p> <p>Under legislative changes introduced by <i>Environmental Protection (Underground Water Management) and Other Legislation Amendment Act 2016</i> on 6 December 2016, section 412 of the Water Act will now provide that regardless of the degree of water level decline, a bore will have an impaired capacity if free gas derived from the carrying out of the authorised activities under a resource tenure has, or has likely, caused or materially contributed to an adverse effect. An adverse effect includes, if there is evidence, of any of the following:</p> <ul style="list-style-type: none"> • damage to the bore or to the bore's pumps or other infrastructure; • that the bore poses a health or safety risk; or • that the bore can no longer, or it is likely that the bore can no longer, provide a reasonable quantity or quality of water for its authorised use or purpose.