



Department of
Primary Industries
Office of Water

2013 audit report of implementation of water sharing plans

Prepared for the period between 1 July 2008 and
30 June 2013

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More information

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Acknowledgments

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (June 2013). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

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Acronyms and abbreviations

AWD	Available water determination
Basin Plan	Murray Darling Basin Plan developed under the Commonwealth Water Act (2007)
BLR	Basic Landholder Right
GAB	Great Artesian Basin Water Sharing Plan
GDE	Groundwater dependent ecosystem
LTADEL	Long-term average annual extraction limit
NRC	Natural Resources Commission
the Minister	NSW Minister for Natural Resources, Land and Water
the Panel	Audit Panel appointed by the Minister for Water under s. 44 of the Water Management Act 2000
WMA	<i>Water Management Act 2000</i> (NSW)

Glossary

Water sharing plan term review refers to the Minister's decision to extend the existing plan or replace it with a new one at the end of its first 10 year term in line with CI 43A provisions of the Act.

Amend water sharing plan refers to changes made to the plan during its 10 year term. These changes may be provided for in the original plan provisions or made by the Minister under s.45(1)(a) of the Act

Executive summary

This report was drafted in 2013 and endorsed by an Audit Panel, appointed under section 44 of the Act, in the same year. It was published in 2018.

In the intervening time, the names of some organisations have changed (e.g. NSW Office of Water has become Department of Industry Water) and some panels or groups have ceased operation (e.g. State Interagency Panel on Water Sharing).

Regardless, the report is being published without modification to ensure transparency and historical correctness.

In mid 2009, the Minister for Water appointed an Audit Panel (the panel) under section 44 of the *Water Management Act 2000* (NSW) (WMA) to audit the implementation of water sharing plans at intervals of not more than five years. This report details the panel's audit of the three water sharing plans that commenced in 2008, namely the:

- *Water Sharing Plan for the Lower Lachlan Groundwater Source 2003* (hereafter Lower Lachlan water sharing plan)
- *Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008* (hereafter GAB water sharing plan)
- *Water Sharing Plan for the Bellinger River Area Unregulated and Alluvial Water Sources 2008* (hereafter Bellinger water sharing plan).

In accordance with the WMA and the panel's terms of reference, the audit focussed on whether the water sharing plans' provisions were implemented from their commencement in 2008 until 30 June 2013. It did not focus on the effectiveness of the plans' as this will be considered at the end of the plans' 10 year term.

The Office of Water, under the direction of the panel, has prepared this report to the Minister.

Section 1 of the report outlines the audit's scope and the methodology used by the panel to assess and highlight differences in implementation activity across the plans.

Section 2 summarises the panel's findings. Differences in implementation activity across the two water plan types (coastal unregulated river and alluvial groundwater, and inland groundwater) and within plans are discussed.

The panel's main findings are listed below.

Inland groundwater plans

- Over 90 per cent of provisions were either implemented when required, or not required to be implemented in the two groundwater plans.
- Monitoring of water extractions to assess compliance with extraction limits was undertaken annually for each groundwater source covered by the two groundwater plans. A status report for each water source is in preparation.
- A small number of new water supply works have not met all the required distance rules in the GAB water sharing plan area.
- 100 per cent of the water saved through the Cap and Pipe the Bores program from 1990 to 30 June 1999, and seventy per cent of water saved as part of the Cap and Pipe the Bores program after 1 July 1999 has been reserved as planned environmental water in the Central, Warrego and Surat Groundwater Sources within the GAB water sharing plan.
- Supplementary water access licences were issued in the Lower Lachlan Groundwater Source and available water determinations (AWD) for supplementary access licences were reduced in accordance with Lower Lachlan water sharing plan provisions.

Coastal unregulated river and alluvial groundwater plan

- Thirty-eight per cent of provisions were either not implemented, or only partially implemented when required in the Bellinger water sharing plan. This was primarily a consequence of:
 - mandatory conditions not being issued for water access licences and water supply work approvals within the Bellinger water sharing plan area. This issue was rectified in 2014.
 - the absence of measurement and water use information, which impacted upon the implementation of daily flow sharing provisions, account management and temporary trading.
- Real time hydrometric stations were used as flow reference points for some water sources within the Bellinger water sharing plan and these were operational for all days during the audit period.

Section 3 outlines the additional measures identified by the panel that are required to give effect to the current plans and lessons for future water sharing plans.

Key measures identified for the groundwater plans are:

- Consider the results of new or updated approaches to the identification of GDEs during the life of the plans to ensure they include the best available information.
- Consider amending distance rules in the GAB water sharing plan for new water supply works that supply domestic and stock or basic landholder rights water and that result in a net environmental or pressure improvement upon review/replacement of the plan.
- Amend the description of the annual extraction limit in each GAB groundwater source to correctly describe the required calculations.
- Prioritise the finalisation and introduction of the reasonable use guidelines for taking water under domestic and stock rights provided for under the WM Act.

Key measures identified for the coastal unregulated and alluvial plan are:

- NOW and State Water Corporation to resolve which organisation will be responsible for water measurement and account management in coastal unregulated catchments as part of the Stage 2 of the Bulk Water Delivery Review.
- Once measurement and account management responsibilities are assigned, the responsible organisation should investigate long-term water measurement options for coastal unregulated catchments following the July 2015 IPART determination.
- Enact provisions such as establishing and managing water accounts, and temporary trading once water use information is available.
- Assess whether the flow classes and daily access rules should be reviewed upon the review/replacement of the plan. An assessment will ascertain the risk to the water sources, community expectation and the adequacy of available information and resources required to support the development of new rules.
- Prioritise the finalisation and introduction of the reasonable use guidelines for taking water under domestic and stock rights provided for under the WM Act.

Key measures identified for future water sharing plans focus on realistically anticipating the information and resources that will be available to support implementation of plan rules at the planning stage.

Section 4 sets out the next steps for improving implementation of the water sharing plans following submission of the audit report to the Minister. These include:

- Translating the additional measures identified by the panel, and adopted by the Minister, into tangible actions. It is acknowledged that this will be the responsibility of the Office of Water. The panel requests that the State Interagency Panel on Water Sharing be kept informed of progress.
- Attracting funding via the Independent Pricing and Regulatory Tribunal (IPART) process for the introduction of water use measurement in the Bellinger water sharing plan area.

The Act also requires that the Minister consider the most recent audit of plans (conducted under s 44 of the WMA) and a report from the Natural Resources Commission (NRC) on the contribution of the water sharing plans to the achievement of the relevant state-wide natural resource management standards and targets in the relevant catchment action plans together with any recommended plan changes when deciding whether to review or replace an existing plan.

1. Introduction

Section 44 of the WMA requires that management plans (including water sharing plans) be audited at intervals of not more than five years in order to ascertain whether their provisions are being given effect to. The Minister is required to have regard to the results of the most recent audit conducted under this section when setting terms of reference for the preparation of a management plan to replace an existing water management plan.

To this end, the former Minister for Water appointed a panel in 2009 to review the implementation of water sharing plans (see Attachment A for a list of members and terms of reference).

1.1 Scope of the audit

The 2013 audit covered the three water sharing plans that commenced in 2008 (Table 1) and considered the degree to which their provisions had been implemented during the five years since their commencement in 2008 to June 2013.

Table 1 Water sharing plans covered by the 2013 audit of implementation

Water sharing plan	Commencement date
Lower Lachlan Groundwater Source	1 February 2008
NSW Great Artesian Basin Groundwater Sources	1 July 2008
Bellinger River Unregulated and Alluvial Water Sources	1 July 2008

1.2 Methodology

The audit of implementation of each water sharing plan relied on analysis conducted by the Office of Water for the consideration of the panel. This analysis was summarised and classified the degree of implementation of water sharing plan provisions (not required, implemented, sometimes implemented, or not implemented).

In accordance with the requirements of the WMA and the panel's terms of reference, the focus of this audit was on the implementation of the provisions in the plans. There was no attempt to assess the outcomes or effectiveness of the plans in achieving their objectives.

The focus on implementation of water sharing plan provisions also means that the analysis did not summarise all of the water management activities that the NSW Government is involved in. Activities that complement the implementation of the plans or are undertaken to fulfil NSW requirements under the National Water Initiative, State Plan or other drivers were not reported on.

For the sake of brevity and to reduce unnecessary duplication, activities with the same implementation requirements and classification across plans were grouped together in the analysis. For example, many of the plan provisions assessed as being implemented when required covered the three plans over five years whilst many of those classified as not implemented when required may have covered only one plan for one or part of a year. This means that a simple tally of the number of activities in each category in the analysis is not useful in gaining an overall picture of the proportion of implementation activities required by the water sharing plans.

To address this issue, Office of Water staff conducted a quantitative analysis of implementation of the water sharing plans on behalf of the panel. This involved analysis of the individual provisions in each plan to determine how many implementation activities were required for each plan and identify those which required implementation and those which were not triggered during

the five year period under consideration. The number of provisions that required action was then compared to the number actually implemented in each of the five years. The percentage figures and graphs included in this report rely on this quantitative analysis. It should be noted that, whilst useful, this quantitative analysis was not the only information used by the panel in undertaking its audit of the water sharing plans.

The varying complexity and structure of the individual plan rules meant that a particular implementation activity may not have been required in all plans or in all years. For example, both groundwater plans included provisions to make changes to share components, however, requirements to cancel supplementary water access licences in the Lower Lachlan groundwater plan are not required until after 1 July 2018.

The panel did not have the capacity to independently verify the Office of Water documentation and assessment of water sharing plan implementation in detail. Instead, they drew upon their knowledge of particular plans and/or areas to intuitively assess the accuracy of Office of Water documentation of water sharing plan implementation. This was supplemented via consultation on Office of Water work within each of the panel member's organisations. Where required, the original audit material was modified to take into account feedback from this consultation.

The panel then reviewed the audit material, both quantitative and qualitative, to:

- identify patterns of implementation activities across plan types and types of water sharing plan provisions
- identify actions needed to address instances of partial and non-implementation
- develop broad recommendations for improving the implementation of existing plans and the robustness of new plans
- identify opportunities for linking the audit findings with other related processes, namely the Commonwealth Murray-Darling Basin Plan and review of the Local Land Services' catchment action plan targets.

The panel gave greatest consideration to provisions that were not implemented when required or only partially implemented. This focus is reflected in the discussions throughout this report. It should be noted, however, that the panel acknowledges the significant improvement in water management arrangements and implementation of water sharing plan rules that has occurred since the first plans were gazetted.

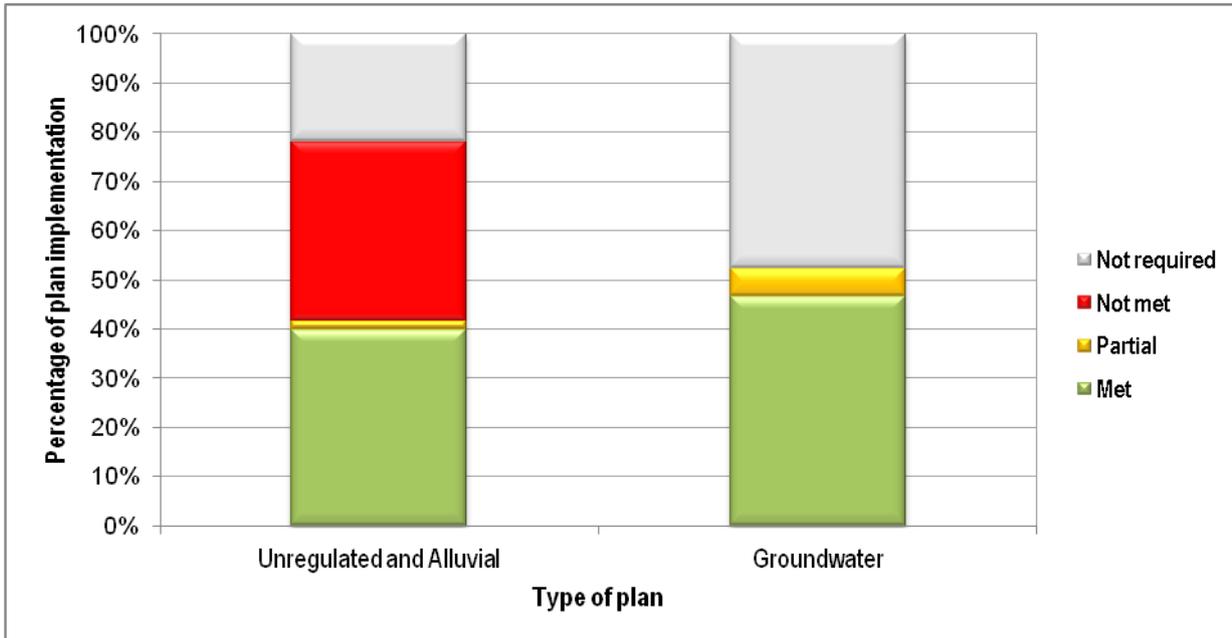
2. Findings

2.1 Patterns of implementation across water sharing plans

Implementation differed across the two plan types (inland groundwater, coastal unregulated river and alluvial groundwater) during the first five years of operation. The highest level of implementation occurred in the inland groundwater plans. Across both plans 94 per cent of provisions were either not required to be implemented or were implemented when required and only one per cent of provisions were not implemented when required (Figure 1).

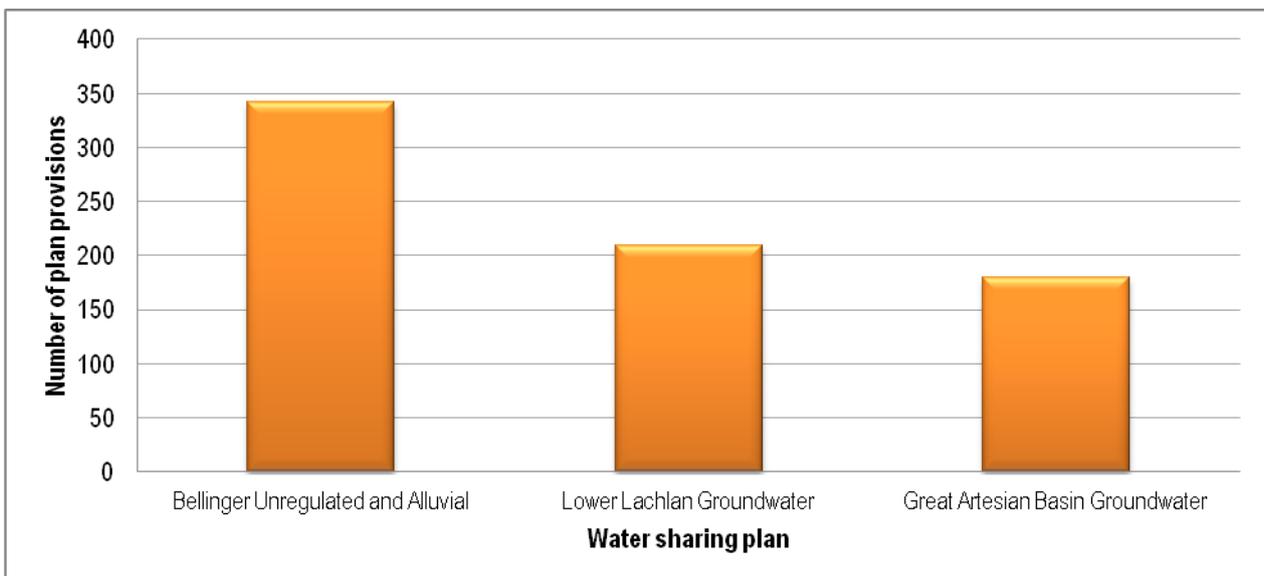
In the coastal unregulated river and alluvial groundwater plan, 61 per cent of provisions were either not required to be implemented or were implemented when required. Thirty-seven per cent of provisions were not implemented when required and two per cent were partially implemented (Figure 1). The primary reason for partial or non-implementation of plan provisions was the absence of water use metering and measurement, and issuing of mandatory licence and works approval conditions.

Figure 1 Comparison of implementation across water sharing plan types (2008-2013)



A comparison of the number of provisions within each plan (Figure 2) shows that the Bellinger water sharing plan has significantly more provisions than either of the inland groundwater plans. The Bellinger water sharing plan has 342 provisions, compared to 209 in the Lower Lachlan water sharing plan and 180 in the GAB water sharing plan. This is a consequence of the Bellinger water sharing plan covering two water source types—unregulated surface water and alluvial groundwater—and therefore including water sharing provisions to manage access and use in, and across both.

Figure 2 Comparison of water sharing provisions within each plan



Account management rules were not implemented at all times in both plan types. Water allocation account management could not be established in the Bellinger water sharing plan area in the absence of water use measurement. Errors that were observed in the groundwater plans included some accounts taking more water than was permitted, holding more water than was permitted or carrying over more water than was permitted. The Office of Water is working

with State Water to fix the water accounting systems database to correct difficulties in correctly applying water account balances following permanent trades that occur in the middle of the water year.

For both plan types, there were provisions that did not require implementation (22 per cent in the unregulated and 48 per cent in the groundwater plans) (Figure 1). Of particular note was that landholders were not required to exercise their basic landholder rights in accordance with reasonable use guidelines for domestic consumption and stock watering during the audit period. Reasonable use guidelines are provided for under section 325 (3) of the WM Act but to date have not been introduced by the Government. Without these guidelines the amount of water that can be taken under a domestic and stock right cannot be limited. In some situations their introduction would help to manage resource competition between these users.

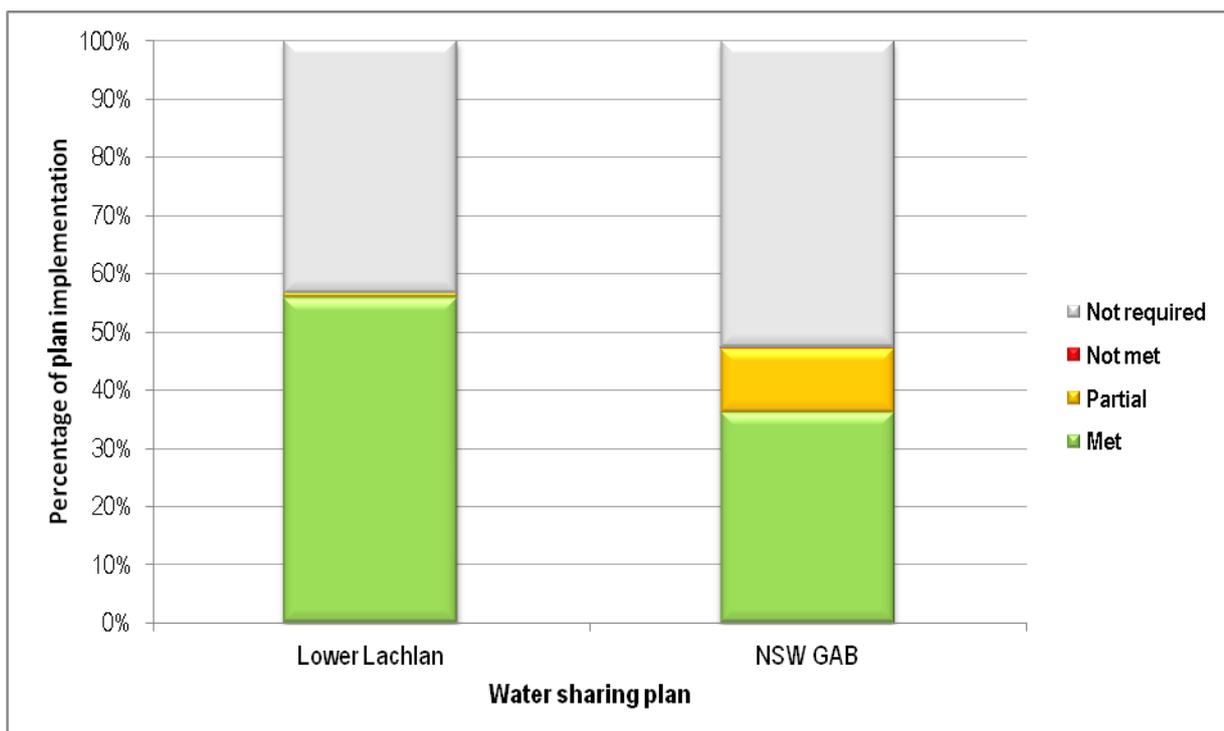
In most cases where provisions were not required to be implemented, management arrangements outside of the plan were used to manage extraction pressure. For example, distance rules to separate new water supply work approvals from other water supply works or from GDE's reduce localised impacts in groundwater sources and are, in part, why local impact areas have not been required to be declared in these groundwater sources.

2.2 Patterns of implementation within plans

Inland groundwater

Less than one per cent of provisions were not implemented in the two groundwater plans (Figure 3). These included the rules that prohibit bores from being within specified distances of neighbouring bores, property boundaries and GDEs. The audit identified that these rules were not always applied in the GAB water sharing plan and some BLR bores were permitted within the distance restrictions following implementation of the Cap and Pipe the Bores program because the Cap and Pipe the Bores program provided a net environmental gain for GDEs. The panel has recommended an amendment to the GAB water sharing plan to allow newly drilled BLR bores that result in a net environmental or pressure improvement to be exempt from these distance restrictions.

Figure 3 Comparison of implementation levels across the groundwater plans (2008-2013)



Over half (56 per cent) of provisions in the Lower Lachlan and 36 per cent of provisions in the GAB were always implemented as required (Figure 3). Forty-four per cent of provisions in the Lower Lachlan and 53 per cent of the provisions in the GAB groundwater plans did not need to be implemented (Figure 3). The number of provisions that were implemented, or not required to be implemented, reflect the Office of Water’s effective water management in these groundwater sources.

Figure 4 Implementation levels in parts of the Lower Lachlan water sharing plan (2008-2013)

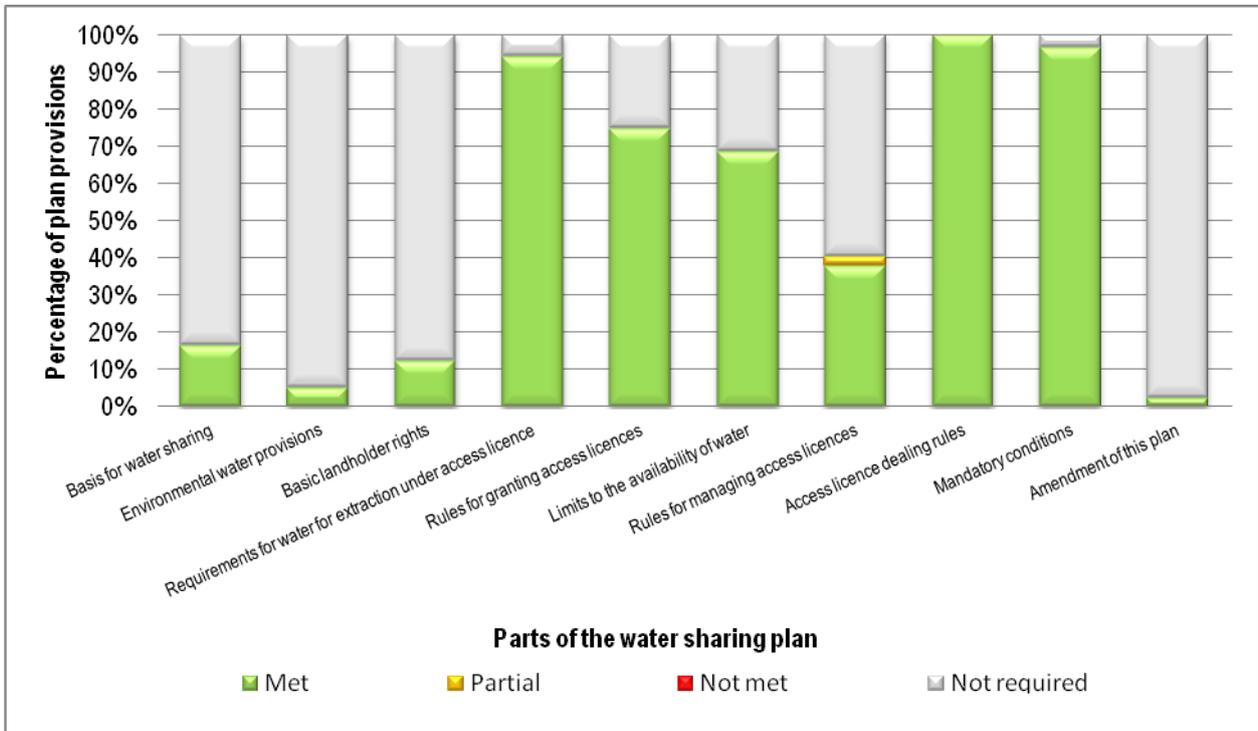
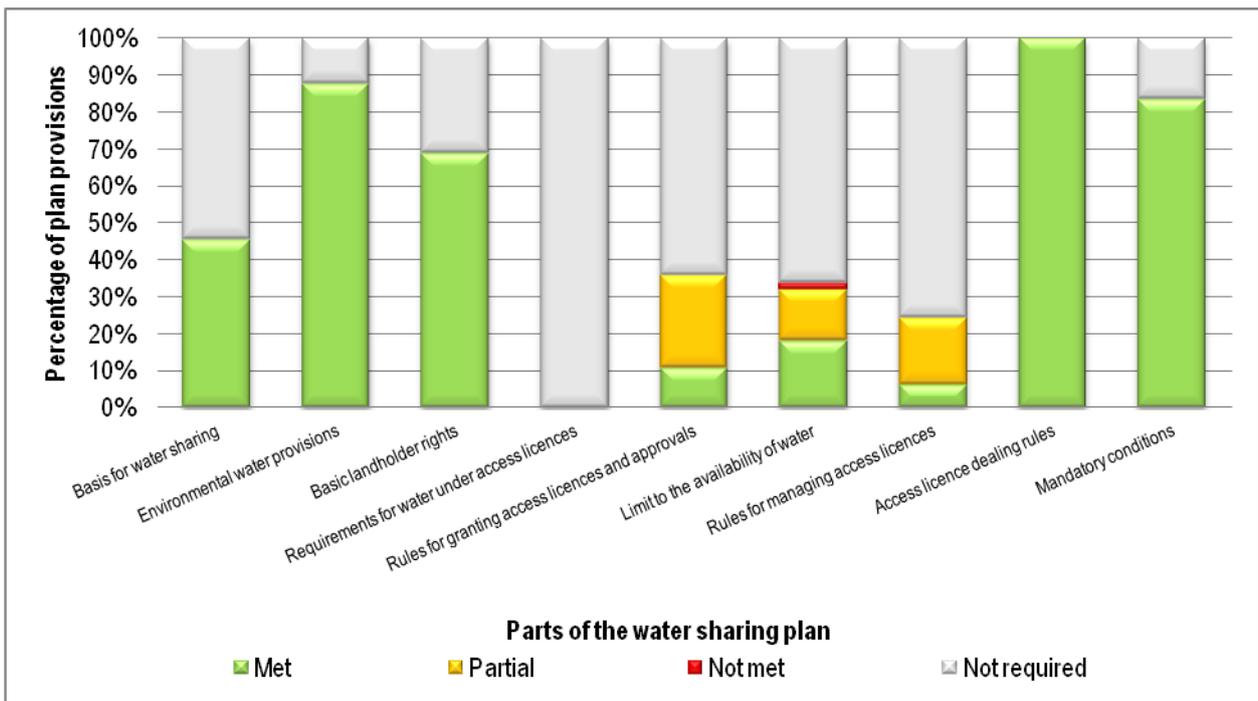


Figure 5 Implementation levels in parts of the GAB water sharing plan (2008-2013)



As illustrated in Figures 4 and 5, the provisions that were consistently implemented included:

- rules related to protecting planned environmental water (Part 4)
- rules related to dealings (Part 11)
- giving effect to mandatory conditions on access licences and work approvals (Part 12).

The provisions that did not require implementation in these two plans included:

- rules related to limits to the availability of water (Part 9)
- rules related to managing access licences (Part 10).

Implementation of compliance rules to restrict extractions was not required in either plan because LTAAELs were not exceeded and no local impact areas were declared.

Coastal unregulated river and alluvial groundwater

Parts of the Bellinger water sharing plan that were not implemented, or only partially implemented were those that require water use information (i.e. metering). As Figure 6 shows, this impacted upon the implementation of flow classes (basis for water sharing), planned environmental water, compliance with the LTAAEL, account management rules, annual water determinations and temporary trading.

If drier conditions had prevailed in the Bellinger water sharing plan area between 2008 and 2013, non or partial implementation of these plan provisions may have detrimentally impacted upon the resource security of all water users (including basic rights) and the environment. For example, non-compliant water use below cease-to-pump levels could have reduced water availability for downstream water users, and social and environmental purposes.

Figure 6 Implementation levels in parts of the Bellinger water sharing plan (2008-2013)

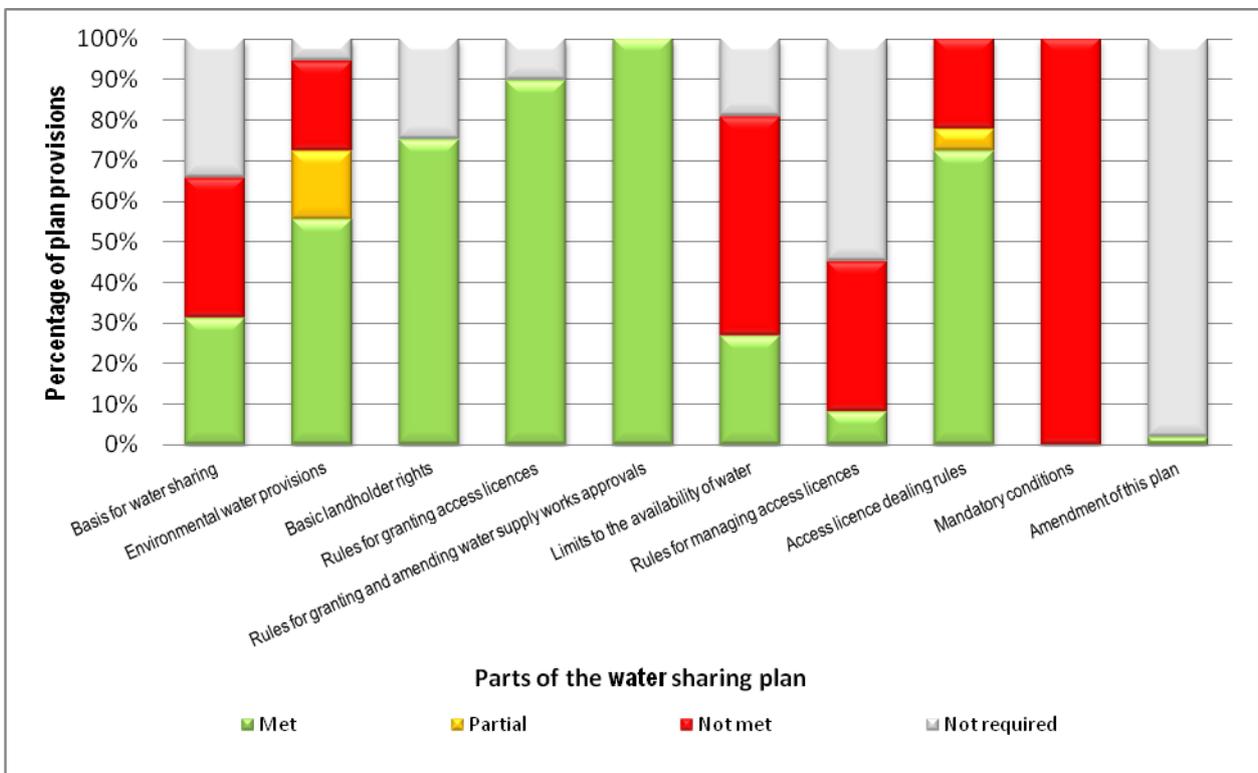


Figure 6 also illustrates that 100 per cent of the plan's mandatory condition provisions were not implemented during the audit period. Mandatory conditions stipulate how or when a water supply work approval or access licence can or cannot operate. If these conditions are not attached to a

water supply work approval or access licence, a water user is not legally bound to operate in accordance with the relevant water sharing plan provisions.

The Bellinger water sharing plan was amended in 2013 so that its water access rules could be specified as a condition on the water supply work approval and not the water access licence, which is the current approach for water sharing plans. Access licence and water supply works approval conditions were issued in May 2014 following completion of the Office of Water's licence condition review.

3. Additional measures to give effect to water sharing plans

3.1 Water sharing plans covered by the audit

Where there was less than full implementation of plan provisions, the panel identified a number of additional measures that may be required to address this. All actions are to be carried out by the Office of Water.

For the inland groundwater water sharing plans, the panel recommended the following:

- Amend the definition of the LTAAEL in the GAB water sharing plan to correctly reflect calculations used to determine this limit.
- Review licensing processes to ensure that they align with plan requirements for bore applications to limit interference between neighbouring bores, groundwater dependent ecosystems and Aboriginal cultural heritage values. interference management restricted areas
- Report on Lower Lachlan groundwater water quality monitoring results and consider changes to the triggers at review/replacement of the plan to ensure that water quality management strategies are appropriate and cost effective
- Continue state-wide identification and mapping of potential groundwater dependent terrestrial vegetation and provide guidance for future investigations.

For the coastal unregulated river and alluvial groundwater water sharing plan, the key recommendations include:

- Attracting funds and introducing water use measurement. This is the single most important action required to improve implementation of this plan. This action also affects a number of sections within the plan and would, hence, result in the greatest improvement in implementation rates.
- Prioritise the finalisation and introduction of the reasonable use guidelines for taking water under domestic and stock rights provided for under the WM Act. Without these guidelines in place, there is no ability to limit the amount of water that can be taken under a stock and domestic right.
- Enabling other provisions, such as establishing and managing water accounts, full dealing rules and mandatory conditions once water use information is available.

3.2 Lessons for future plans

Experiences in implementation of these water sharing plans should inform future plans developed under the Act where relevant. Key lessons for future plans include:

- Review processes for licence conversion at commencement of new plans to ensure licence categories are correctly carried across to the WMA and consider implementing an ongoing process that will identify if licences have been incorrectly converted at the time of plan commencement
- Provisions should be cost effective and practical to implement.

4. Next steps

The panel acknowledges that a separate process will be required for translating the additional measures identified in this report and adopted by the Minister into tangible actions. This process will necessarily involve analysis of the implications of the additional measures identified by the panel, in terms of practicality, urgency, information availability, resources required to support the measures, community expectations, and synergies with other planning processes, particularly the Commonwealth's Murray-Darling Basin Plan.

Some consultation will be required for a number of the additional measures identified by the panel. The nature and extent of any consultation undertaken should be explicitly considered in the strategy adopted to progress the measures.

The panel requests that the Office of Water reports to the State Interagency Panel on its progress analysing and developing the additional measures identified in this report. It is suggested that each time the audit process is commenced for water sharing plans the Office will report to the State Interagency Panel on the progress of outcomes from previous audits.

The Act requires that when deciding whether to extend or replace an existing plan, the Minister consider:

- the most recent audit of water sharing plans conducted under s.44 when reviewing or renewing a plan
- a report from the NRC prepared within the previous five years, on the extent to which the water sharing provisions have materially contributed to the achievement, or the failure to achieve, the State priorities for local land services that relate to natural resource management, and whether any changes to the plan are warranted.

Attachment A: Terms of reference and membership of the 2011 s. 44 Panel

Section 44 Audit Panel Terms of Reference

The Terms of Reference for the Water Sharing Plan Audit Panel established under section 44 of the WMA are as follows:

- Review audit reports prepared by Office of Water
- Advise on appropriateness of the assessments made by the Office of Water in these reports
- Identify any additional measures required to give effect to the water sharing plans.

The audit reports that will be prepared by the Office of Water will be based on periodic reviews of the implementation programs, developed for all of the water sharing plans, which commenced in July 2004 and subject to this audit. These implementation programs detail management targets that will deliver the outcomes of the plans and identify strategies Office of Water will adopt to ensure the requirements established in the plans will be achieved during their term.

Timeframes

The following indicative time frames will apply:

January	Office of Water commence preparation of report for panel
End March	Audit report provided to panel for consideration
End June	Panel report to the Minister for Water on its deliberations

Membership

Membership of the panel will reflect that of the State Interagency Panel for Water Sharing:

- Ms Sarah Dinning, Office of Water (Chair)
- Ms Althea Kannane, Office of Environment and Heritage
- Dr Tracey MacDonald, Department of Primary Industries
- Ms Sarah Fairfull, Department of Primary Industries
- Mr Mathew Davidson, Local Land Services (inland)
- Mr Brett Miners, Local Land Services (coastal)

A representative from the Natural Resources Commission will be invited to participate in the Audit process as an observer.

The Office of Water will provide an Executive Officer to support the panel.

Decision making

The preferred decision making process will be by consensus. In the event that consensus cannot be achieved, a minority report may be provided where appropriate.

Reporting

The panel will report directly to the Minister for Primary Industries.