

Boyne River Basin Resource Operations Plan

December 2013

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Foreword

I am pleased to release the final Boyne River Basin Resource Operations Plan 2013 (the plan) which implements the Water Resource (Boyne River Basin) Plan 2013 and replaces the Boyne River Basin Resource Operations Plan 2006.

The plan supports the Queensland Government's four pillar economy policy by providing for the release of unallocated water from the strategic water infrastructure reserve for future urban and industrial demands, and seasonal trading of water licences in the area downstream of Awoonga Dam. The plan rules provide for the productive use of water resources while providing for the environment's water needs.

The plan supports the Government's commitment to reduce red tape by simplifying the rules and structure of the plan, providing greater flexibility to support water users in their business decisions through fit-for-purpose regulation.

Rules contained in the plan provide for:

- the amendment of 27 existing unsupplemented water licences to include an appropriate daily volumetric limit to ensure that water is shared equitably among water licence holders. This is consistent with the management of water licences in other management areas across the State.
- the release of unallocated water from the strategic water infrastructure reserve to meet additional urban and industry demands that cannot otherwise be met by alternative water supplies.
- carryover arrangements which provides Gladstone Area Water Board (GAWB) with increased flexibility in managing its water allocations. GAWB will be able to carry over some unused portions of their water allocations (78 000 ML), and effectively increase the volume of water that may be taken in the following water year.
- water permit arrangements which allows GAWB to take additional volumes of water from Awoonga Dam under certain circumstances. This is designed to be an interim arrangement allowing GAWB to access additional volumes of water to meet the demand and security of supply contracts prior to the completion of new infrastructure.
- continuation of releases from Awoonga Dam to provide for the downstream water needs of licence holders and the environment.
- monitoring that is tailored to assessing the effectiveness of the plan in achieving the intended outcomes.

The plan has been developed in consultation with water users in the plan area.

Dr Brett Heyward
Director-General
Department of Natural Resources and Mines

Chapter 1 Preliminary

1 Short title

- (1) This resource operations plan may be cited as the Boyne River Basin Resource Operations Plan 2013¹.
- (2) Reference in this document to ‘this plan’ means the Boyne River Basin Resource Operations Plan 2013.

2 Commencement of the resource operations plan

This plan commences on the first business day after the Water Resource (Boyne River Basin) Plan 2013 is enacted.

3 Purpose of plan

This plan implements the Water Resource (Boyne River Basin) Plan 2013.

4 Interpretation of words used in this plan

The dictionary in attachment 1 defines particular words used in this plan.

5 Plan area

This plan applies to the area shown as the plan area on the map in attachment 2.

6 Water to which this plan applies

This plan applies to the following water in the plan area—

- (a) water in a watercourse or lake; and
- (b) water in a spring not connected to—
 - (i) artesian water; or
 - (ii) subartesian water connected to artesian water.

7 Resource operations licence holder

- (1) A resource operations licence holder for this plan is the resource operations licence holder for the Awoonga Water Supply Scheme.
- (2) The area managed under the resource operations licence listed in subsection (1) is shown on the map in attachment 3.

8 Water management area

Subcatchment area A is a water management area for this plan².

9 Resource operation plan zone

- (1) The zone shown on the map in attachment 3 is the resource operations plan zone (zone) for this plan.
- (2) The zone includes—
 - (a) each part of a watercourse, lake or spring that lies within the zone; and
 - (b) those sections of tributaries where there is access to flow or pondage from a watercourse or lake within the zone.

¹ To allow for future amendments to this plan, some section numbers have been deliberately left blank. This will facilitate any plan amendments that may occur without the need for the whole plan to be renumbered.

² Subcatchment area A is shown in Attachment 2 of this plan and schedule 1 of the Water Resource (Boyne River Basin) Plan 2013.

10 Information about plan area, water supply scheme and zone

- (1) The location of the boundaries of the plan area, water supply scheme and zone are held in digital electronic form by the department.
- (2) The information held in digital electronic form can be reduced or enlarged to show the details of the boundaries³.

11 Metering

- (1) A meter, which complies with the standards approved by the chief executive, must be used to measure the volume of water taken under a water entitlement.
- (2) Subsection (1) applies—
 - (a) from the day the water entitlements are declared to be metered entitlements under the Water Regulation 2002, part 7; and
 - (b) in the circumstances mentioned in the Water Regulation 2002.
- (3) The resource operations licence holder must meter the taking of water under all water allocations managed under the resource operations licence.

12 Departmental water monitoring data collection standards and data reporting standards

- (1) Where this plan requires monitoring by the resource operations licence holder, including measurement, collection, analysis and storage of data, the resource operations licence holder must ensure the monitoring is consistent with the Water Monitoring Data Collection Standards⁴.
- (2) Where this plan requires transfer of data or reporting by a resource operations licence holder, the resource operations licence holder must ensure the transfer or reporting is consistent with the Water Monitoring Data Reporting Standards⁵.

13 Interim program

- (1) This section applies where a resource operations licence holder is unable to meet the requirements of this plan.
- (2) The resource operations licence holder must—
 - (a) within two months of commencement of this plan, submit a statement of programs currently in existence to the chief executive for approval; and
 - (b) within 6 months of commencement of this plan, submit an interim program for meeting the requirements of this plan to the chief executive for approval.
- (3) The resource operations licence holder may at any time submit an interim program or an amendment to an existing program to the chief executive for approval if the holder proposes to operate in a way that is different to the requirements of this plan.
- (4) Any submitted interim program or amendment to an existing program by the resource operations licence holder must include a timetable and interim methods to be used.
- (5) In considering any submitted program, the chief executive—
 - (a) may request additional information from the resource operations licence holder; and
 - (b) must consider the public interest.
- (6) In deciding any submitted program, the chief executive may either—
 - (a) approve the program, including with conditions; or

³ The boundaries held in digital electronic form may be inspected at any of the department's offices.

⁴ The Water Monitoring Data Collection Standards can be inspected at any of the department's offices or accessed online at: <www.dnrm.qld.gov.au>

⁵ The Water Monitoring Data Reporting Standards can be inspected at any of the department's offices or accessed online at: <www.dnrm.qld.gov.au>

- (b) amend and approve the amended program; or
 - (c) request the resource operations licence holder to submit a revised program.
- (7) Within 10 business days of making a decision on a submitted program, the chief executive must notify the resource operations licence holder of the decision.
- (8) Following approval of the program by the chief executive, the resource operations licence holder must—
- (a) publish details of the approved program on their internet site; and
 - (b) operate in accordance with the approved program.
- (9) Where there is conflict between the provisions of this plan and an approved program, the program prevails for the time it is in place.


14 Operating and environmental management rules and monitoring requirements

- (1) The operating and environmental management rules and monitoring requirements of this plan do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons.
- (2) Where subsection (1) applies, the resource operations licence holder must comply with the reporting requirements for operational or emergency prescribed in chapter 8, section 110.

15 Sustainable management of water

This plan, in implementing the Water Resource (Boyne River Basin) Plan 2013, provides for the sustainable management of water by—

- (a) allowing for the allocation of water and contributing to the fair, orderly and efficient allocation of water to meet community needs by—
 - (i) stating a process for dealing with unallocated water held as strategic water infrastructure reserve; and
 - (ii) establishing seasonal water assignment rules for water licences in the water management area.
- (b) protecting the biological diversity and health of natural ecosystems and contributing to the protection and, where possible, reversal of degradation of water, watercourses, lakes, springs, natural ecosystems and other resources by—
 - (i) detailing the operating, environmental management rules and water sharing rules for Awoonga Water Supply Scheme;
 - (ii) detailing arrangements for the collection and assessment of data by the chief executive relating to the Water Resource (Boyne River Basin) Plan 2013 economic, social and ecological outcomes; and
 - (iii) detailing water and natural ecosystem monitoring responsibilities for the resource operations licence holder.
- (c) contributing to improving the confidence of water users regarding the availability and security of water entitlements by—
 - (i) stating a process for dealing with unallocated water held as strategic water infrastructure reserve;
 - (ii) detailing the operating, environmental management and water sharing rules for the Awoonga Water Supply Scheme;
 - (iii) detailing change rules for water allocations in the Awoonga Water Supply Scheme;

- 
- (iv) detailing water and natural ecosystem monitoring responsibilities of the resource operations licence holder for the Awoonga Water Supply Scheme;
 - (v) establishing seasonal water assignment rules for water licences in the water management area;
 - (vi) detailing processes for dealing with applications for water licences;
 - (vii) detailing arrangements for the collection and assessment of data by the chief executive relating to Water Resource (Boyne River Basin) Plan 2013 outcomes; and
 - (viii) detailing stated amendments under section 106(b) of the *Water Act 2000* that can be made to this plan.
- (d) contributing to increasing community understanding and participation in the sustainable management of water by—
- (i) providing opportunities for community participation and submissions as part of plan development; and
 - (ii) clearly specifying rules and arrangements for the allocation and management of water in the plan area.

16 Addressing water resource plan outcomes

Attachment 4 lists the outcomes of the Water Resource (Boyne River Basin) Plan 2013 and how this plan addresses those outcomes.

17 to 21 section numbers not used

Chapter 2 Unallocated water

22 Scope of chapter 2

This chapter states the process for making available and dealing with unallocated water mentioned in chapter 5, part 2 of the Water Resource (Boyne River Basin) Plan 2013.

23 Record of volume of unallocated water

The chief executive may keep a register of the volume of unallocated water available.

Part 1 Granting from strategic water infrastructure reserve⁶

24 Process for granting water allocations from the strategic water infrastructure reserve—*Water Act 2000*, section 122

- (1) The chief executive may accept a submission from the resource operations holder for making unallocated water available from the strategic water infrastructure reserve for up to 19 000 ML.
- (2) The submission must be supported by sufficient information to enable the chief executive to assess the submission against the outcomes and objectives of the Water Resource (Boyne River Basin) Plan 2013.
- (3) The chief executive may require the submitter to give additional information.
- (4) If the submitter fails, without reasonable excuse, to comply with the requirement for additional information within the reasonable time stated in the requirement, the submission lapses.
- (5) The chief executive may grant a supplemented water allocation through an amendment to this plan that includes infrastructure operating and environmental management rules for the new water infrastructure and water sharing rules for the water allocation being granted.

Part 2 Granting from strategic reserve or general reserve⁷

25 Application of part 2

This part applies to unallocated water held as—

- (a) strategic reserve; and
- (b) general reserve.

26 Criteria associated with a process for granting unallocated water stated in division 1C of the *Water Regulation 2002*

- (1) In preparing and implementing the process, the chief executive is to consider the following criteria—
 - (a) the purpose for which the water is required;
 - (b) the efficiency of existing and proposed water use practices;
 - (c) the extent to which water is being taken under existing authorisations in the plan area;
 - (d) the availability of an alternative water supply for the purpose for which the water is required; and
 - (e) the impact the proposed taking of, or interfering with, the water may have on existing water users and the operations of resource operations licence holder in the plan area.

⁶ Section 21 of the Water Resource (Boyne River Basin) Plan 2013 states the strategic water infrastructure reserve for the Boyne River Basin.

⁷ Section 21 of the Water Resource (Boyne River Basin) Plan 2013 states the strategic and general reserves for the Boyne River Basin.



Chapter 3 Amending authorisations

35 Amending water licences—*Water Act 2000*, section 217

Within 120 business days of the commencement of this plan, the chief executive must amend the water licences in accordance with attachment 5 of this plan.

36 to 44 section numbers not used

Chapter 4 Awoonga Water Supply Scheme

45 Application of chapter 4

This chapter applies to—

- (a) the resource operations licence holder for Awoonga Water Supply Scheme; and
- (b) all water allocations associated with the Awoonga Water Supply Scheme.

46 Infrastructure details

Attachment 6 sets out the infrastructure details of the Awoonga Water Supply Scheme.

Part 1 Operating and environmental management rules

47 Definitions for part 1

In this part—*weekly assessment period* means the 7 day period starting each Monday.

48 Operating levels for Awoonga Dam

- (1) The resource operations licence holder may release supplemented water from Awoonga Dam only if the release is necessary to comply with sections 51, 52 or 53.
- (2) Despite subsection (1), the resource operations licence holder must not release water from Awoonga Dam—
 - (a) for releases which are to comply with sections 51 or 52—when the water level in the dam is below 30m AHD; and
 - (b) for releases which are to comply with section 53—when the water level in the dam is below 27m AHD or above 30m AHD.

49 Quality of water released from Awoonga Dam

The resource operations licence holder must draw water from the inlet level that optimises the quality of water released.

50 Change in rate of release from Awoonga Dam

The resource operations licence holder must minimise the occurrence of adverse environmental impacts by ensuring that any change in the rate of release of water from Awoonga Dam into a watercourse occurs incrementally.

51 Base flow release rule

- (1) This section applies if—
 - (a) the water level in Awoonga Dam is between 30m AHD and its full supply level; and
 - (b) the weekly base flow volume is greater than 20ML; and
 - (c) a trigger flow release under section 52 has not commenced.
- (2) The resource operations licence holder must release the weekly base flow volume at a constant daily release rate over the 7 day period following each weekly assessment period.

- (3) In this section—

daily base flow volume, for a day in the weekly assessment period, means the lesser of the estimated daily dam inflow and the maximum daily base flow for the month in table 1.

estimated daily dam inflow, for a day in the weekly assessment period, means the total combined daily flow volume, for the Boyne River at Milton (GS 133004A) and Diglum Creek at Marlua (GS 133003A), multiplied by 1.64.

weekly base flow volume means the sum of the daily base flow volumes for each day in a weekly assessment period.

Table 1: Maximum daily base flow

Month	Maximum daily base flow (ML)
January	24
February	50
March	53
April	39
May	25
June	29
July	33
August	30
September	26
October	21
November	20
December	16

52 Trigger flow release rule

- (1) This section applies if—
- (a) the water level in Awoonga Dam is between 30m AHD and its full supply level; and
 - (b) a trigger flow event has either commenced or occurred.
- (2) The resource operations licence holder must for each trigger flow event—
- (a) determine the trigger flow release volume as—
 - (i) for an event with a duration of less than six days, the lesser of—
 - (A) the dam inflow during the event; and
 - (B) 18 000 megalitres; or
 - (ii) for other events—18 000 megalitres; and
 - (b) release the trigger flow release volume—
 - (i) at a minimum rate of 864 megalitres per day;
 - (ii) over a maximum period of 21 days; and
 - (iii) starting six days after the commencement of a trigger flow event.
- (3) If a subsequent trigger flow event starts during the release of a trigger flow release volume, the resource operations licence holder must—
- (a) cease releasing the trigger flow release volume; and
 - (b) determine and release a new trigger flow release volume for the subsequent trigger flow event in accordance with subsection (2).

- (4) The resource operations licence holder must estimate dam inflows using the storage inflow derivation methodology approved by the chief executive under section 99.
- (5) In this section—

dam inflow, for a period, means the volume of water flowing into Awoonga Dam during the period.

trigger flow event means a flow sequence between the months of September to March, that starts with at least four consecutive days of dam inflow greater than or equal to 3 210 megalitres per day, and ends when the dam inflow recedes to less than 3 210 megalitres per day.

53 Releases for downstream water needs

- (1) This section applies—
 - (a) from the first business day when the water level in Awoonga Dam is between 27m AHD and 30m AHD; and
 - (b) if the total inflow to Awoonga Dam calculated by the resource operations licence holder for the four preceding weekly assessment period was more than 7000 ML.
- (2) The resource operations licence holder must commence the release of water for downstream water needs—
 - (a) within 5 business days after the water level at Pikes Crossing is below 0.75m AHD; and
 - (b) of a volume sufficient to increase the water level at Pikes Crossing to 2.0m AHD.
- (3) The resource operations licence holder may defer a release of the water for up to 12 months if the water level in Awoonga Dam is no longer between 27m and 30m AHD at the time water is intended to be released under this section until—
 - (a) the water level in Awoonga Dam is between 27m and 30m AHD; and
 - (b) the water level at Pikes Crossing is below 0.75m AHD.
- (4) The resource operations licence holder is not required to release water if a total of 800ML has been released under subsection (2) in the water year.

Part 2 Dealing with water allocations

54 Application for changes to a water allocation

An application for a change to a water allocation may be made in accordance with section 130 of the *Water Act 2000*.

Part 3 Water sharing rules

55 Announced allocation

The announced allocation for high priority water allocations in the Awoonga Water Supply Scheme must be 100%.

56 Carryover

- (1) The resource operations licence holder may, subject to this section, allow a holder of a water allocation to carry over part of any unused water from one water year to the next water year.
- (2) Carry over of water is permitted if, at the start of the water year, the level in Awoonga Dam is at, or above, 30m AHD.
- (3) The total volume of unused water for the scheme that is permitted to be carried over to the next water year is the lesser of—

- (a) 15 per cent of the total nominal volume for the scheme; and
 - (b) 90 per cent of the total volume of unused water for the scheme at the end of the water year.
- (4) Any volume of water that is carried over into a water year and not taken before the end of December, must be deducted from the volume of water available to the holder of the water allocation.

57 Taking water under a water allocation

- (1) The total volume of water taken under a water allocation in a water year must not exceed the nominal volume of the water allocation.
- (2) Subsection (1) does not include the volume of water permitted to be carried over from the previous water year as specified in section 56.

Part 4 Temporary access to additional volumes

58 Granting a water permit to Gladstone Area Water Board

- (1) This section applies to an application for a water permit to take water from the Awoonga Water Supply Scheme made by Gladstone Area Water Board under section 237 of the *Water Act 2000* which is associated with a water licence held by Gladstone Area Water Board to take water in the Fitzroy Basin water resource plan area.
- (2) The application may be granted only if the chief executive is satisfied that—
 - (a) the applicant holds a water entitlement to take water from the Fitzroy River that has been granted under the provisions of the resource operations plan for the Fitzroy Basin; and
 - (b) the granting is consistent with—
 - (i) the environment flow objectives for the Water Resource (Boyne River Basin) Plan 2013; and
 - (ii) the water allocation security objectives for the Water Resource (Boyne River Basin) Plan 2013.
- (3) A water permit may be granted if the permit—
 - (a) is for a period that ends no more than two water years after water is authorised to be taken under the entitlement mentioned in subsection (1); and
 - (b) is for a volume not greater than the volume allowed to be taken under the entitlement mentioned in subsection (1); and
 - (c) ceases to have effect once the entitlement mentioned in subsection (1) is converted to or replaced in accordance with the process outlined in the resource operations plan for the Fitzroy Basin.

59 to 69 section numbers not used



Chapter 5 Seasonal water assignment for particular water licences

70 Scope of chapter 5

This part provides for seasonal water assignment of water licences that authorise taking water from the Boyne River at a location within the water management area.

71 Seasonal water assignment rules

- (1) The holder of a water licence mentioned in subsection (2)(a) may apply under section 231 of the *Water Act 2000* for a seasonal water assignment.
- (2) Seasonal water assignments are permitted only if—
 - (a) the water licence is a metered entitlement in accordance with the *Water Regulation 2002*;
 - (b) the water level at Pike’s Crossing is greater than 0.75m AHD; and
 - (c) the water level in Awoonga Dam is greater than 30m AHD.
- (3) The amount of water that may be seasonally assigned under a water licence in a water year may not exceed the unused portion of water for that water licence.

72 to 75 section numbers not used

Chapter 6 Dealing with water licence applications

76 Water licence applications to which this chapter applies

- (1) This chapter applies to each application for a water licence made under either section 206 or 216 of the *Water Act 2000* if granting the application would have one or more of the following effects on water to which this plan applies—
 - (a) increase the amount of water that may be taken;
 - (b) change the location from which water may be taken to be a location contiguous to the current location;
 - (c) increase the daily volumetric limit for taking water;
 - (d) change the conditions under which the water may be taken; or
 - (e) increase the interference with the water.
- (2) This chapter applies even if the application was made before the commencement of this plan.
- (3) This chapter does not apply to—
 - (a) an application made under the following provisions of the *Water Act 2000*—
 - (i) section 221—reinstating an expired water licence;
 - (ii) section 224—amalgamating water licences;
 - (iii) section 225—subdividing a water licence; and
 - (iv) section 229—effect of disposal of part of land to which water licence to take water attaches;
 - (b) an application to interfere with, or increase the interference with, water in a watercourse, lake or spring by impounding flow of water made in accordance with chapter 5, part 3 of the Water Resource (Boyne River Basin) Plan 2013; and
 - (c) an application made in accordance with chapter 2 of this plan.

77 Applications to be refused

The chief executive must refuse an application to which this chapter applies, unless this chapter explicitly provides for granting the application.

78 Application to increase the daily volumetric limit

- (1) For an application to amend a water licence to increase the daily volumetric limit, the chief executive may grant the application only if there is an existing development permit associated with the water licence and—
 - (a) the daily volumetric limit specified on the existing water licence is less than—
 - (i) if there is an existing development permit associated with the water licence that states a pump size mentioned in schedule 2, column 1 of the Water Resource (Boyne River Basin) Plan 2013—the daily volumetric limit stated in schedule 2, column 2 of the Water Resource (Boyne River Basin) Plan 2013; or
 - (ii) if there is an existing development permit associated with the water licence that states a pump size other than a pump size mentioned in schedule 2, column 1 of the Water Resource (Boyne River Basin) Plan 2013—the daily volumetric limit decided by the chief executive having regard to the limits stated for similar pump sizes in schedule 2, column 2 of the Water Resource (Boyne River Basin) Plan 2013; and

-
- (b) where schedule 2 of the Water Resource (Boyne River Basin) Plan 2013 does not apply—the works authorised by an existing development permit associated with the water licence have the capacity to take water at a rate greater than the daily volumetric limit specified on the existing water licence.
- (2) The chief executive must refuse the application if the daily volumetric limit applied for exceeds—
- (a) if there is an existing development permit associated with the water licence that states a pump size mentioned in schedule 2, column 1 of the Water Resource (Boyne River Basin) Plan 2013—the daily volumetric limit stated in schedule 2, column 2 of the Water Resource (Boyne River Basin) Plan 2013; or
 - (b) if there is an existing development permit associated with the water licence that states a pump size other than a pump size mentioned in schedule 2, column 1 of the Water Resource (Boyne River Basin) Plan 2013—the daily volumetric limit decided by the chief executive having regard to the limits stated for similar pump sizes in schedule 2, column 2 of the Water Resource (Boyne River Basin) Plan 2013; or
 - (c) the maximum volume the works authorised by an existing development permit associated with the water licence are capable of taking in a day at the maximum rate decided.

79 Application to change location where water may be taken

- (1) This section applies to an application to amend the location from which water may be taken under a water licence if the change would result in the new location being a parcel of land contiguous to the existing location.
- (2) The chief executive may grant the application.

80 to 90 section numbers not used



Chapter 7 Monitoring and reporting

91 Water monitoring

- (1) The chief executive must measure or collect and keep publicly available records of—
 - (a) water quantity
 - (b) water taken; and
 - (c) the number and volume of water licences seasonally assigned.
- (2) The chief executive must collect information on—
 - (a) future consumptive demands for water, and
 - (b) the construction of new bores.
- (3) The chief executive may use information collected to support water resource assessment and reporting.

92 Natural ecosystems monitoring

The chief executive must collect information on—

- (a) ecological assets that are linked to the ecological outcomes of the Water Resource (Boyne River Basin) Plan 2013; and
- (b) the critical water requirements of ecological assets in the plan area, including the provision of these requirements under the Water Resource (Boyne River Basin) Plan 2013.

93 Assessment and reporting

- (1) The chief executive must assess the data mentioned in sections 91 and 92 of this plan against the outcomes specified in the Water Resource (Boyne River Basin) Plan 2013.
- (2) The chief executive's assessment may be used in assisting the Minister to prepare a report under section 40 of the Water Resource (Boyne River Basin) Plan 2013.

94 to 96 section numbers not used

Chapter 8 Resource operations licence holder monitoring and reporting

97 Scope of chapter 8

This chapter sets out the monitoring and reporting requirements that apply to the resource operations licence holder for the Awoonga Water Supply Scheme.

98 Monitoring data must be made available

The resource operations licence holder must—

- (a) provide any monitoring data required under this chapter to the chief executive upon request and within the time requested; and
- (b) ensure the transfer of data is consistent with the water monitoring data collection and reporting standards in accordance with section 12 of this plan.

Part 1 Monitoring requirements

Division 1 Water quantity

99 Storage water level and flow data

The resource operations licence holder must—

- (a) record storage water level and stream flow data in accordance with table 2;
- (b) for the purposes of meeting the requirements of the base flow release rule under section 51—determine and record the daily base flow volume; and
- (c) for the purpose of meeting the requirements of the trigger flow release rule under section 52—
 - (i) submit a proposed inflow derivation methodology to the chief executive for approval within 40 business days of the commencement of this plan; and
 - (ii) determine and record dam inflows based on the approved storage inflow derivation methodology.

Table 2: Locations for storage water level or height and flow data

Location	Continuous time series storage water level data	Continuous time series height and flow data
Boyne River @ Milton (GS133004A) ⁸		✓
Diglum Creek @ Marlua (GS133003A)		✓
Awoonga Dam Headwater	✓	

100 Releases from Awoonga Dam

- (1) The resource operations licence holder must measure and record—
 - (a) the daily volume released;
 - (b) the release rate, and for any change in release rate—
 - (i) the date and time of the change; and
 - (ii) the new release rate;

⁸ Milton gauging station will be inundated once Awoonga Dam has been raised to 45m AHD. The further upstream Nagoorin gauging station will then replace the Milton gauging station.

- (c) the reason for each release; and
 - (d) the inlet level used for each release and reason for deciding to release from that particular inlet level.
- (2) In addition to the requirements under subsection (1) the resource operation licence holder must determine and record—
- (a) the weekly baseflow volume in accordance with section 51;
 - (b) the trigger flow release volume in accordance with section 52; and
 - (c) the release for downstream water needs in accordance with section 53.

101 Carryover

The resource operations licence holder must record details of the total volume of water carried over to the water year from the previous water year.

102 Water taken by water users

The resource operations licence holder must record the total volume of water, taken by each water user as follows—

- (a) the total volume of water taken each day;
- (b) the total volume of water entitled to be taken at any time; and
- (c) the basis for determining the total volume of water entitled to be taken at any time.

Division 2 Impact of storage operation on natural ecosystems

103 Water quality

The resource operations licence holder must monitor and record water quality data in relation to relevant infrastructure listed in attachment 6.

104 Bank condition

- (1) The resource operations licence holder must inspect banks for evidence of collapse and/or erosion identified within ponded areas of Awoonga Dam and downstream reaches, following instances of—
- (a) rapid water level changes; or
 - (b) large flows through storage, or
 - (c) other occasions when collapse and/ or erosion of banks may be likely.
- (2) For subsection (1), downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

105 Fish stranding

The resource operations licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the resource operations licence holder's infrastructure listed in attachment 6 to determine if any instance is associated with the operation of that infrastructure.

Part 2 Reporting requirements

106 Reporting requirements

- (1) The resource operation licence holder must provide—
- (a) an annual report; and
 - (b) if required—an operational report or emergency report.

Division 1 Annual reporting

107 Annual report

- (1) The resource operations licence holder must submit an annual report to the chief executive after the end of the water year.
- (2) The annual report must include—
 - (a) water quantity monitoring results required under section 108 of this plan;
 - (b) details of the impact of storage operation on natural ecosystems as required under section 109 of this plan; and
 - (c) a discussion of any issues that arose as a result of the implementation and application of the rules and requirements of this plan.

108 Water quantity monitoring—annual report

The resource operations licence holder must include in their annual report—

- (a) the periods when the water level in Awoonga Dam—
 - (i) was at or below 30m AHD and at or below 27 m AHD; or
 - (ii) was above full supply level.
- (b) the total annual volume of supplemented water taken, including—
 - (i) the total volume of water taken;
 - (ii) the total volume of water entitled to be taken; and
 - (iii) the basis for determining the total volume entitled to be taken, including any volume of water carried over from the previous water year;
- (c) the total volume of water taken within each month for the Callide and Gladstone pipelines;
- (d) the volume of water to be carried over into the next water year and the basis for determining that volume;
- (e) the total volume of water released within each month to meet the requirements of—
 - (i) the base flow release rule in section 51;
 - (ii) the trigger flow release rule in section 52; and
 - (iii) downstream water users under section 53;
- (f) for each trigger flow event determined to have occurred under section 52—
 - (i) the start and end dates for the event; and
 - (ii) the trigger flow release volume released for the event;
- (g) all details of changes to the storage and delivery infrastructure, or the operation of storage and delivery infrastructure that may impact on compliance with rules in this plan; and
- (h) details of any new monitoring devices used such as equipment to measure stream flow.

109 Impact of storage operation on natural ecosystems

The resource operations licence holder must include in their annual report—

- (a) a summary of the environmental considerations made by the resource operations licence holder in making operational and release decisions;

- (b) a summary of the environmental outcomes of the decision including any adverse environmental impacts;
- (c) a summary of bank condition and fish stranding monitoring and assessment including—
 - (i) results of investigations of bank slumping and/or erosion identified within the ponded area of Awoonga Dam and downstream reaches;
 - (ii) results of any investigations of fish stranding downstream of the storage; and
 - (iii) changes to the operation of the storage to reduce instances of bank slumping and/or erosion or fish stranding; and
- (d) a discussion and assessment of the following water quality issues—
 - (i) thermal and chemical stratification in the storage;
 - (ii) contribution of the storage and its management to the quality of water released;
 - (iii) cumulative effect of the storage on water quality within and downstream of the storage;
 - (iv) cyano-bacterial population changes in response to stratification in the storage; and
 - (v) any proposed changes to the monitoring program as a result of evaluation of the data.

Division 2 Operational or emergency reporting

110 Operational and emergency reporting⁹

- (1) The resource operations licence holder must notify the chief executive within one business day of becoming aware of—
 - (a) any of the following operational incidents—
 - (i) non-compliance by the resource operations licence holder with the rules in this plan; and
 - (ii) instances of fish stranding and kills, or bank slumping and erosion within the ponded area of Awoonga Dam and downstream reaches; and
 - (b) an emergency where, as a result of the emergency, the resource operations licence holder cannot comply with a rule in this plan.
- (2) The resource operations holder must provide to the chief executive upon request and within the timeframe requested a report which includes details of—
 - (i) the incident or emergency;
 - (ii) conditions under which the incident or emergency occurred;
 - (iii) any responses or activities carried out as a result of the incident or emergency; and
 - (iv) in relation to an emergency only, any rules specified in this plan that resource operations licence holder is either permanently or temporarily unable to comply with due to the emergency.

111 to 120 section numbers not used

⁹ This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation

Chapter 9 Amendments to the resource operations plan

121 Scope of chapter 9

This chapter states the types of amendments that can be made to this plan under section 106(b) of the *Water Act 2000*.

122 Commencement of amendments

- (1) An amendment to this plan commences—
 - (a) where a date is specified in the Queensland Government Gazette—on the date specified; or
 - (b) where no date is specified in the Queensland Government Gazette—on the date the gazette is first published.
- (2) Despite subsection (1) an amendment to this plan commences on the first business day after an amendment to the Water Resource (Boyne River Basin) Plan 2013 is enacted if an amendment to a resource operations plan is undertaken concurrently with an amendment to the water resource plan.

123 Minor or stated amendment of this plan—*Water Act 2000*, section 106

The following types of amendment may be made to this plan under section 106(b) of the *Water Act 2000*—

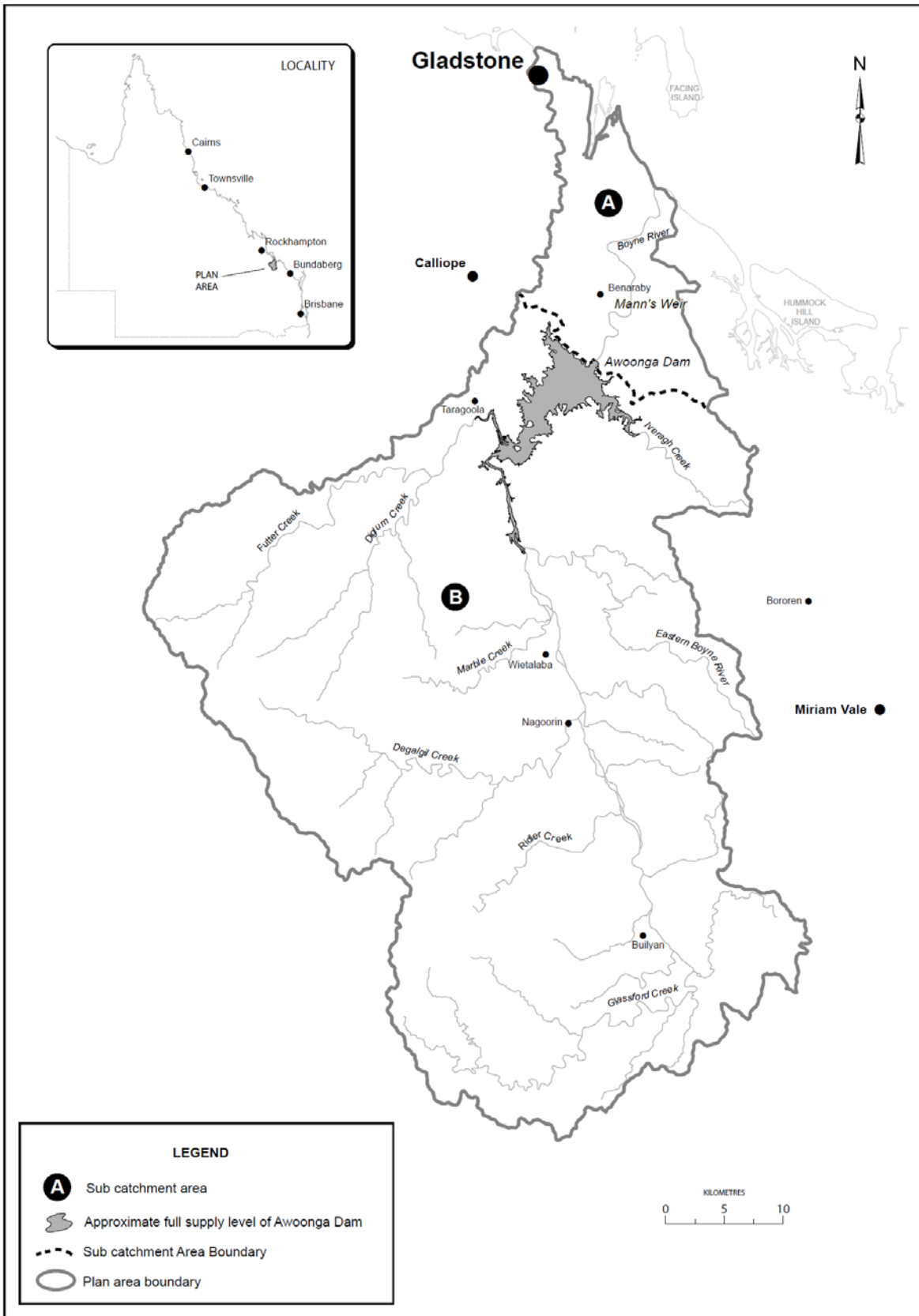
- (a) An amendment may be made to this plan if the chief executive is satisfied that the proposed amendment would not cause any significant detrimental impact on—
 - (i) existing water entitlement holders or;
 - (ii) the availability of water for—
 - (A) ecological assets; or
 - (B) natural ecosystems; and
- (b) The amendments under subsection (1) may include, but are not limited to, the following—
 - (i) an amendment that is necessary to implement an amendment to the Water Resource (Boyne River Basin) Plan 2013 made under section 57 of the *Water Act 2000*;
 - (ii) an amendment that provides for improved or more efficient monitoring and reporting requirements;
 - (iii) an amendment to remove amending provisions and associated attachments once the amending has occurred in accordance with the plan; and
 - (iv) an amendment to infrastructure details, operating and environmental management rules, dealings with water allocations, water sharing rules or seasonal water assignment rules.

Attachment 1

Dictionary

section 4

Term	Definition
AHD	Australian Height Datum adopted by the National Mapping Council of Australia for referencing a level or height back to a standard base level.
AMTD	Adopted Middle Thread Distance is the distance in kilometres, measured along the middle of the watercourse, that a specific point in the watercourse is from— <ul style="list-style-type: none"> (a) the watercourse's mouth; or (b) if the watercourse is not a main watercourse—the watercourse's confluence with its main watercourse.
announced allocation	For a water allocation managed under a resource operations licence, announced allocation means a number, expressed as a percentage, which is used to determine the maximum volume of water that may be taken in a water year under the authority of a water allocation.
carryover	The volume of water permitted to be carried over from the unused portion of the entitlement at the end of the previous water year.
coordinated project	See schedule 3 of the Water Resource (Boyne River Basin) Plan 2013.
elevation (EL)	The elevation of a geographic location is its height above a fixed reference point, often the mean sea level.
emergency	An occurrence that by nature of its severity, extent or timing, might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health).
existing development permit	A development permit that is in effect at the commencement of this plan.
fish stranding	When fish are stranded or left out of the water on the bed or banks of a watercourse, on infrastructure such as spillways and causeways or left isolated in small and/or shallow pools, from which they cannot return to deeper water. This also applies to other aquatic species such as platypus and turtles.
location	Location means— <ul style="list-style-type: none"> (a) for a water allocation—the zone from which water can be taken; and (b) for a water licence—the section of the watercourse, lake or spring abutting or contained by the land described on the licence, from which water may be taken.
megalitre (ML)	One million litres.
minimum operating level	The operating level below which water cannot generally be accessed to supply water users. Water below the minimum operating level can sometimes be accessed as part of drought response action using temporary supply measures such as installing a floating inlet pump.
multi-level off-take	An off-take arrangement that allows stored water to be released downstream from selected levels below the stored water surface. In this plan it refers to Awoonga Dam.
nominal entitlement	See section 65 of the Water Regulation 2002.
ponded area	Area of inundation at full supply level of a storage.
project of regional significance	See schedule 3 of the Water Resource (Boyne River Basin) Plan 2013.
resource operations licence holder	The resource operations licence holder for the Awoonga Water Supply Scheme.
State purposes	See schedule 3 of the Water Resource (Boyne River Basin) Plan 2013.
water user	The holder of a valid water entitlement.
water year	The water year is the 12 month period from 1 July in one year to 30 June in the following year.

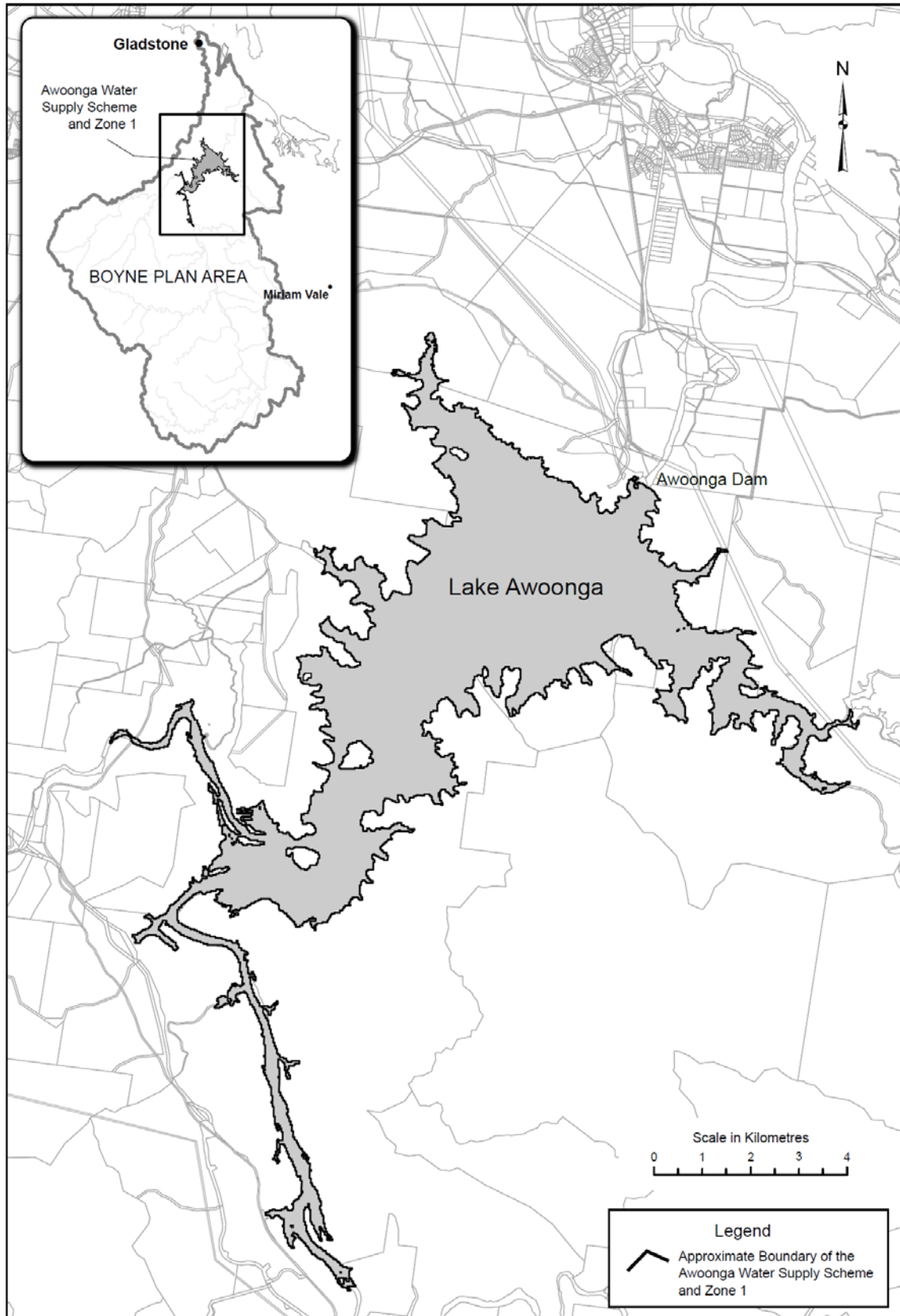


24 October 2012 - A4-508578 - CAS 1283-2

Attachment 3

Awoonga Water Supply Scheme and Zone 1

sections 7 and 9



19 October 2012 - A4 508579 - CAS 1283-3

Attachment 4

Links between this plan and the *Water Resource (Boyne River Basin) Plan 2013*

section 16

Economic outcomes of the <i>Water Resource (Boyne River Basin) Plan 2013</i> (section 10)	Resource operations plan rules
provision for the use of water entitlements and other authorisations in the plan area	<ul style="list-style-type: none"> ▪ amending authorisations ▪ operating and environmental management rules ▪ water sharing rules
protection of the probability of being able to take water under a water allocation.	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ operating and environmental management rules ▪ water sharing rules
availability of water for the following— <ul style="list-style-type: none"> ▪ growth in industries dependent on water resources in the plan area; and ▪ stock purposes in the plan area. 	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ amending authorisations ▪ seasonal water assignment of particular water licences ▪ dealing with water licence applications
the support of flexible and diverse water supply arrangements for water users	<ul style="list-style-type: none"> ▪ operating and environmental management rules ▪ water sharing rules ▪ seasonal water assignment of particular water licences
support of activities stated in the <i>Water Regulation 2002</i> , schedule 1	<ul style="list-style-type: none"> ▪ provided for under the water resource plan
maintenance of flows that support water-related economic activities in the plan area, including, for example, tourism	<ul style="list-style-type: none"> ▪ operating and environmental management rules ▪ monitoring and reporting (chief executive) ▪ resource operations licence holder monitoring and reporting
encouragement of continual improvement in the efficient use of water.	<ul style="list-style-type: none"> ▪ water sharing rules ▪ resource operations licence holder monitoring and reporting ▪ seasonal water assignment of particular water licences
Social outcomes of the <i>Water Resource (Boyne River Basin) Plan 2013</i> (section 11)	Resource operations plan rules
increased security for town water supplies that rely on water in the plan area;	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ operating and environmental management rules ▪ water sharing rules
availability of water for the following— <ul style="list-style-type: none"> ▪ population growth in towns and communities dependent on water resources in the plan area; ▪ domestic purposes in the plan area, 	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ dealing with water licence applications
maintenance of flows that support water-related aesthetic, cultural and recreational values in the plan area, including the cultural values of the traditional owners in the plan area	<ul style="list-style-type: none"> ▪ operating and environmental management rules ▪ monitoring and reporting (chief executive) ▪ resource operations licence holder monitoring and reporting
maintenance, to the extent practicable, of the quality of water for human use.	<ul style="list-style-type: none"> ▪ operating and environmental management rules ▪ monitoring and reporting (chief executive) ▪ resource operations licence holder monitoring and reporting

Ecological outcomes of the <i>Water Resource (Boyne River Basin) Plan 2013 (section 12)</i>	Resource operations plan rules
<p>continued capability of one part of the river system to be connected to another, including maintaining flows that—</p> <ul style="list-style-type: none"> ▪ allow for the movement of native aquatic fauna between riverine, floodplain, wetland, estuarine and marine environments; and ▪ support water-related ecosystems; and ▪ support river-forming processes. 	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ operating and environmental management rules ▪ dealing with water licence applications
<p>provision of a flow regime that ensures—</p> <ul style="list-style-type: none"> ▪ maintenance of fresh water to the Boyne River estuary; ▪ maintenance of waterholes, including the Nagoorin waterhole; ▪ riffle habitats; and ▪ maintenance of estuarine ecosystem functions, including, for example, flows for the movement and recruitment of barramundi (<i>Lates calcarifer</i>) and sea mullet (<i>Mugil cephalus</i>) and banana prawn (<i>Fenneropenaeus merguensis</i>) growth 	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ operating and environmental management rules ▪ monitoring and reporting (chief executive)
<p>minimisation of the impacts of the taking of water on water-related ecosystems.</p>	<ul style="list-style-type: none"> ▪ dealing with unallocated water ▪ operating and environmental management rules ▪ resource operations licence holder monitoring and reporting
<p>protection and maintenance of refugia associated with waterholes, lakes and wetlands.</p>	<ul style="list-style-type: none"> ▪ operating and environmental management rules ▪ dealing with water licence applications ▪ monitoring and reporting (chief executive)

Attachment 5 Amended water licences

section 35

Licensee	Licence Number	Purpose	Daily Volumetric Limit (ML)	Nominal Entitlement (ML)	Watercourse	Water Licence Conditions Added	Water Licence Conditions Removed
BC & EE MANN	51605U	AGRICULTURE	3.9	90	BOYNE RIVER	N/A	N/A
RJ & WA OWBRIDGE	57422U	AGRICULTURE	0.6	27	BOYNE RIVER	N/A	N/A
JR & SL COX; L ANDREWARTHA	57425U	AGRICULTURE	3.9	22	BOYNE RIVER	N/A	N/A
JA BEBENDORF	189566	AGRICULTURE	1.0	12	BOYNE RIVER	N/A	1
JA BEBENDORF	57423U	AGRICULTURE	1.0	14	BOYNE RIVER	N/A	N/A
DM BIGNELL, SL CORNWELL	57440U	AGRICULTURE	1.0	5	BOYNE RIVER	N/A	N/A
JJ & KC RAINE, RJ KENT	45319U	AGRICULTURE	1.5	35	BOYNE RIVER	N/A	N/A
MT GEMMELL	45316U	AGRICULTURE	1.5	35	BOYNE RIVER	N/A	N/A
JD VAN VLIET	45390U	AGRICULTURE	1.0	10	BOYNE RIVER	N/A	1.01 1.10
AL & AD DOWNIE	46392U	AGRICULTURE	5.6	30	BOYNE RIVER	N/A	N/A
BJ & ML GIVNEY	57486U	AGRICULTURE	1.5	32	BOYNE RIVER	N/A	1.01 1.10
JM & GC PERSHOUSE; BG VOSS; CA WISHART	189563	AGRICULTURE	2.6	40	BOYNE RIVER	N/A	1.01 1.10
JM & GC PERSHOUSE; BG VOSS; CA WISHART	51626U	AGRICULTURE	2.6	35	BOYNE RIVER	N/A	1.01 1.10
GA & IH PERSHOUSE	51625U	AGRICULTURE	1.5	35	BOYNE RIVER	N/A	N/A
GA & IH PERSHOUSE	189564	AGRICULTURE	1.5	40	BOYNE RIVER	N/A	1 1.01 1.10
CA & TM ALEXANDER GJ & KL THOMSEN	100452	AGRICULTURE	0.6	160	BOYNE RIVER	N/A	N/A
BM MCGREGOR	51542U	AGRICULTURE	2.6	61.6	BOYNE RIVER	N/A	N/A

Licensee	Licence Number	Purpose	Daily Volumetric Limit (ML)	Nominal Entitlement (ML)	Watercourse	Water Licence Conditions Added	Water Licence Conditions Removed
OPAL YARRAWONGA PTY LTD AS TRUSTEE	57427U	AGRICULTURE	2.6	30.8	BOYNE RIVER	N/A	N/A
J & SG DAVIES	57533U	AGRICULTURE	5.6	210	BOYNE RIVER	N/A	N/A
M DARGE, JG EHRET	57550U	AGRICULTURE	1.5	18	BOYNE RIVER	N/A	N/A
DV YOUNG	57544U	AGRICULTURE	9.9	88.7	BOYNE RIVER ANABRANCH	N/A	N/A
RE CATFORD	57435U	AGRICULTURE	3.9	110	FUTTER CREEK	N/A	1.01 1.10
EJ CAMPBELL	17918U	AGRICULTURE	1.5	52.8	FUTTER CREEK	N/A	N/A
BN & RJ BULOW	35524U	AGRICULTURE	5.6	88	FUTTER CREEK	N/A	1.01 1.10
LM & RA CULLEN	41301U	AGRICULTURE	1.5	17.6	DIGLUM CREEK	N/A	1.01 1.10
PH ARIENS	35222U	AGRICULTURE	1.5	35.2	DIGLUM CREEK	N/A	1.01 1.10
KM & WAB FERRIS	51585U	AGRICULTURE	0.6	22	UNAMED TRIBUTARY OF BOOREECO CREEK	N/A	N/A

Attachment 6

Details of infrastructure operated by the resource operations licence holder for the Awoonga Water Supply Scheme

sections 46, 103, and 105

Awoonga Dam—Boyne River at AMTD 22.7 km

Description of water infrastructure	
Description	concrete-faced dam with rockfill embankments
Full supply level	EL 40.00 m AHD
Minimum operating level	EL 13.6 m AHD (invert level of river outlet works)
Saddle dam(s)	homogeneous earth fill—crest @ EL 47.9 m AHD and embankment crest length of 380 metres
Gates	nil
Storage capacity	
Full supply volume	777 000 ML
Minimum operating volume	6400 ML (dead storage for releases via river outlet works)
Spillway arrangement	
Description of works	un-gated ogee concrete gravity spillway
Spillway level	crest EL 40 m AHD
Spillway width	110.95 metres
River inlet/outlet works	
Description works	The intake towers connect to a common DN2200 pipe prior to bifurcating to the GAWB (Awoonga to Gladstone) Pump Station, SunWater (Awoonga to Callide) Pump station and river discharge. Cone valve and isolation butterfly valve at river discharge are DN1900. Overall length of outlet conduit is 191m.
Inlet	<p>The main intake tower is a reinforced concrete dry well structure and has a total of 11 potential offtakes, located between EL 10.5 and 40.5m. Five offtakes, between EL 19.5 and 30.5m, are operational with DN1500 butterfly valves and DN1600 horizontal pipe connecting to a DN2200 vertical pipe that leads to the river discharge and pumping stations. Two lower offtakes at EL 10.5 and 15m currently have DN1600 connecting pipework and do not have DN1500 valves, but which could be reinstated with minor works. The remaining four higher level intakes between 33.0 and 40.5 do not have connecting pipework or valves and are blanked off.</p> <p>There is also an auxiliary intake that is a reinforced concrete wet well structure and which can operate at various levels above EL 26m.</p>
Cease to flow levels	EL 13.6 m AHD
Maximum discharge rate	maximum flow rate to river outlet is 1100 ML/day