

Resource Operations Licence

Water Act 2000

Name of licence

Macintyre Brook Water Supply Scheme Resource Operations Licence

Name of holder

SunWater Limited ACN 131 034 985

Water plan

The licence relates to the Water Plan (Border Rivers and Moonie) 2019.

Water infrastructure

The water infrastructure to which the licence relates is detailed in attachment 1.

Authority to interfere with the flow of water

The licence holder is authorised to interfere with the flow of water to the extent necessary to operate the water infrastructure to which the licence relates.

Authority to use watercourses to distribute water

The licence holder is authorised to use the watercourses listed in table 1 for the distribution of supplemented water.

Table 1: Watercourses to be used for distribution of supplemented water

Watercourse	Description
Macintyre Brook	The ponded area of Coolmunda Dam upstream of AMTD 78 km on Macintyre Brook
Macintyre Brook	Macintyre Brook downstream of Coolmunda Dam to the junction with the Dumaresq River (AMTD 78 km to 0 km)

Conditions

1. Requirement for operations manual

- 1.1. The licence holder must operate in accordance with an approved operations manual.
- 1.2. The approved operations manual must include—
 - 1.2.1. operating rules for water infrastructure;
 - 1.2.2. water sharing rules; and
 - 1.2.3. seasonal water assignment rules.

2. Change in rate of release

- 2.1. The licence holder must minimise the occurrence of adverse environmental impacts by ensuring that any change in the rate of release of water from a storage occurs incrementally.

3. Releases to provide for environmental flows

- 3.1.** The first 100 megalitres per day of inflow into Coolmunda Dam must be released through the outlet works where the water level in Coolmunda Dam is-
 - 3.1.1. less than full supply level; and
 - 3.1.2. greater than 311.05 m AHD.
- 3.2.** Notwithstanding subsection 3.1, where the capacity of the outlet works of Coolmunda Dam is insufficient to release both the volume required for water orders and the volume required under subsection 3.1, the amount to be released under subsection 3.1 may be reduced to the balance of the capacity of the outlet works after allowing for releases for water orders.
- 3.3.** Where the resource operations licence holder acts under subsection 3.2, the balance of the volume required to be released under subsection 3.1 must be released as soon as practicable.
- 3.4.** The total volume of releases made under subsection 3.1 for a water year must not exceed 6000 megalitres.

4. Metering

- 4.1.** The licence holder must meter the volume of water taken under all water allocations and seasonal water assignments managed under this licence unless an alternative method of measuring the volume of water taken is approved in writing by the chief executive.

5. Monitoring and reporting requirements

- 5.1.** The licence holder must carry out and report on the monitoring requirements as set out in attachment 2.
- 5.2.** The licence holder must provide any monitoring data required under condition 5.1 to the chief executive within a stated time upon request.
- 5.3.** The licence holder must ensure that the monitoring, including the measurement, collection, analysis and storage of data, is consistent with the Water Monitoring Data Collection Standards¹.
- 5.4.** The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards².

6. Inter-scheme trading agreement

- 6.1.** There must be an inter-scheme trading agreement between the licence holder for the Macintyre Brook Water Supply Scheme and the licence holder for the Border Rivers Water Supply Scheme to facilitate the transfer and change of location or seasonal assignment of a water allocation between the Macintyre Brook Water Supply Scheme and the Border Rivers Water Supply Scheme.
- 6.2.** The inter-scheme trading agreement must address—
 - (a) licence holder monitoring and reporting requirements; and
 - (b) meter reading and water charges.

¹ 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>

² 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>

6.3. Subsection 6.2 does not limit matters that may be dealt with by the inter-scheme trading agreement.

7. Interstate trading agreement for supplemented water

7.1. For an interstate trade of supplemented water to occur, there must be an interstate trading agreement between the licence holder for the Macintyre Brook Water Supply Scheme and the scheme operator (or equivalent) in New South Wales to facilitate the transfer or seasonal assignment of a water allocation between the Macintyre Brook Water Supply Scheme and the scheme (or equivalent) in New South Wales.

7.2. The interstate trading agreement dealing with supplemented water must address the administrative arrangements for metering and collection of water use information for water accounting purposes.

7.3. Subsection 7.2 does not limit matters that may be dealt with by the interstate trading agreement.

8. Other conditions

8.1. The operating and supply arrangements and the monitoring required under this licence do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons. In these circumstances the licence holder must comply with the operational or emergency reporting requirements prescribed in attachment 2.

Commencement of licence

The licence took effect on 17 March 2008

Granted on 14 March 2008,
Amended 22 February 2019

David Wiskar

Executive Director, Water Policy

Attachment 1 Infrastructure details for Macintyre Brook Water Supply Scheme

Table 1 Coolmunda Dam — Macintyre Brook

Description of infrastructure	
Description	Earth and rock fill dam, equipped with radial gates
Full supply level	EL 314.07 m AHD
Minimum operating level	EL 301.19 m AHD
Storage capacity	
Full supply volume	69 000 ML
Minimum operating volume	210 ML
Storage curves	Drawing No.207900A
Spillway arrangement	
Description of works	Spillway consisting of seven radial gates located centrally in embankment
Spillway level	EL 304.32 m AHD
Spillway width	107.0 metres
Discharge characteristics	Drawing no: 20696A
River inlet/outlet works	
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 390 ML/day.

Table 2 Greenup Weir — Macintyre Brook

Description of water infrastructure	
Description	Timber piled weir with timber crest
Full supply level	EL 296.65 m AHD
Minimum operating level	EL 293.03 m AHD
Storage volume and surface area	
Full supply volume	370 ML
Minimum operating volume	20 ML
Storage curves	Drawing No.F37509
Spillway arrangement	
Description of works	Timber crest
Spillway level	EL 296.65 m AHD
Spillway width	48.5 metres
River inlet/outlet works	
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 30 ML/day

Table 3 Whetstone Weir — Macintyre Brook

Description of water infrastructure	
Description	Sheet piling with concrete cap
Full supply level	EL 262.45 m AHD
Minimum operating level	EL 257.44 m AHD
Storage capacity	
Full supply volume	506 ML
Minimum operating volume	3 ML
Storage curves	Drawing No.F43440
Spillway arrangement	
Description of works	Concrete cap crest
Spillway level	EL 262.45 m AHD
Spillway width	25.6 metres
River inlet/outlet works	
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 45 ML/day

Table 4 Ben Dor Weir — Macintyre Brook

Description of water infrastructure	
Description	Mass concrete gravity weir with central ogee spillway
Full supply level	EL 250.05 m AHD
Minimum operating level	EL 244.26 m AHD
Storage capacity	
Full supply volume	700 ML
Minimum operating volume	20 ML
Storage curves	Drawing No.F37504
Spillway arrangement	
Description of works	Ogee crest
Spillway level	EL 250.05 m AHD
Spillway width	63.7 metres
River inlet/outlet works	
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 40 ML/day

Attachment 2 Licence holder monitoring and reporting

Part 1 Monitoring requirements

Division 1 Water quantity

1. Stream flow and storage water level data

- (1) The licence holder must record water level and flow data in accordance with attachment 2, table 1.
- (2) Notwithstanding subsection (1), where continuous time series data is not available, daily water level data may be recorded.
- (3) Storage inflow may be determined based upon a storage inflow derivation technique supplied by the licence holder and approved by the chief executive.
- (4) Tailwater flows may be estimated using the release curve developed for the discharge works by the licence holder and approved by the chief executive.

Table 1 Locations where continuous time series water level data and daily flow data are required

Location	Water level data	Daily flow data
Coolmunda Dam inflow		✓
Coolmunda Dam headwater	✓	
Coolmunda Dam tailwater		✓
Whetstone Weir headwater	✓	
Ben Dor Weir headwater	✓	

2. Storage inflow

- (1) The licence holder must record for Coolmunda Dam the daily inflow data.
- (2) The inflow data must be real time information upon which operational decisions were based.

3. Releases from storage

- (1) This section applies to the Coolmunda Dam.
- (2) The licence holder must measure and record for the storage outlet—
 - (a) the daily volume released; and
 - (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; and
 - (c) the reason for each release and the component volumes for each release.

4. Continuous share water account reconciliations

The licence holder must record details of each continuous share water account reconciliation determination, including all of the following—

- (a) the date of the reconciliation;
- (b) the reason for the reconciliation;
- (c) the value of each parameter applied for calculating the reconciliation;

- (d) how the water volume difference was applied to continuous share water accounts; and
- (e) the volume of water in each continuous share water account—
 - (i) immediately prior to the reconciliation; and
 - (ii) immediately after the reconciliation.

5. Continuous share volume determinations

The licence holder must record for each water allocation all the values of each parameter applied in determining the continuous share volume.

6. Announced allocations for the bulk share

The licence holder must record for the group of water allocations managed as the bulk share—

- (a) details of announced allocation determinations for—
 - (i) medium priority allocations; and
 - (ii) high priority allocations;
- (b) the date announced allocations are determined; and
- (c) the value of each parameter applied for calculating the announced allocation.

7. Water taken by water users

The licence holder must measure and record for each water allocation and for each zone—

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

8. Seasonal water assignments

The licence holder must record details of each seasonal water assignment, including the following—

- (a) name of the assignee and assignor;
- (b) volume of the assignment;
- (c) location—
 - (i) from which it was assigned; and
 - (ii) to which it was assigned;
- (a) the effective date of the assignment.

9. Limitation on the supply of Medium Priority Water

The licence holder must record the date(s) where the supply of medium priority water allocations is—

- (a) ceased because the water level in Coolmunda Dam is below 304.53 m AHD; or
- (b) recommenced because the water level in Coolmunda Dam has increased to a level equal to or above 304.66 m AHD.

10. Waterholes

- (1) For any waterhole from which supplemented water is taken, the licence holder must establish a unique identifier.
- (2) For each day that supplemented water is taken from a waterhole and where the water level is below cease to flow level, the licence holder must measure and record the level of water below cease to flow level.

Division 2 Impact of infrastructure operation on natural ecosystems

11. Water quality

In accordance with condition 5.3, the licence holder must monitor and record water quality in relation to relevant infrastructure listed in attachment 1.

12. Bank condition

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion identified within the ponded areas and downstream of each storage listed in attachment 1, following instances of—
 - (a) rapid water level changes; or
 - (b) large flows through storages; 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.

13. Fish stranding

The licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the infrastructure in attachment 1 to determine if any instance of fish stranding is associated with the operation of that infrastructure.

Part 2 Reporting requirements

14. Reporting requirements

The licence holder must provide the following reports in accordance with this part—

- (a) Quarterly report;
- (b) Annual report;
- (c) Operational report; and
- (d) Emergency report.

Division 1 Quarterly reporting

15. Quarterly reporting

The licence holder must submit a quarterly report to the chief executive where quarters commence from 1 July—

- (a) water level data—records referred to under section 1;
- (b) storage inflow data—all records referred to under section 2;
- (c) releases from storage—all records referred to under section 3;

- (d) waterholes—all records referred to under section 10;
- (e) water quality—all records referred to under section 11; and
- (f) summary of bank condition monitoring and incidences of slumping carried out in accordance with section 12.

Division 2 Annual reporting

16. Annual report

- (1) The licence holder must submit an annual report to the chief executive each water year.
- (2) The annual report must include—
 - (a) water quantity as described in section 17;
 - (b) details of the impact of storage operation on natural ecosystems as required under section 18; and
 - (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements in this licence.

17. Water quantity reporting

The licence holder must include in their annual report under section 16 above—

- (a) announced allocation determinations, including—
 - (i) an evaluation of the announced allocation procedures and outcomes; and
 - (ii) the date and value for the initial announced allocation and for each change made to an announced allocation;
- (b) water accounts reconciliation determinations, including—
 - (i) an evaluation of the water accounts reconciliation procedures and outcomes; and
 - (ii) the date and value for the 'water volume difference' for each reconciliation process;
- (c) instances where there is a limitation on the supply of medium priority water, including—
 - (i) an evaluation of the effectiveness of the arrangements and outcomes; and
 - (ii) the commencement date(s) and time period(s);
- (d) the total annual volume of water taken by each supplemented water user, specified by zone, including—
 - (i) the total volume of water taken under water entitlements;
 - (ii) the total volume of water entitled to be taken under water entitlements; and
 - (iii) the basis for determining the total volume entitled to be taken;
- (e) the total and volume of seasonal water assignments into and out of each zone;
- (f) all details of changes to the storage and delivery infrastructure or the operation of storage and delivery infrastructure that may impact on compliance with this licence; and
- (g) details of any new monitoring devices used, such as equipment to measure stream flow.

18. Impact of water storage operation on natural ecosystems

The licence holder must include in their annual report under section 16—

- (a) a summary of bank condition and fish stranding monitoring and assessment, including—
 - (i) results of investigations of bank slumping and/or erosion identified in ponded areas and/or downstream of the storages;
 - (ii) results of any investigations of fish stranding downstream of the storages;
 - (iii) changes to the operation of storages to reduce instances of bank slumping, erosion or fish stranding;
- (b) provide a summary of operational release decisions made including an evaluation of the effectiveness of those decisions in preventing or mitigating any adverse impacts on the aquatic ecosystems;
- (c) a discussion and assessment of the following water quality issues—
 - (i) thermal and chemical stratification in each storage;
 - (ii) the impact of the storage and its management on the quality of water released;
 - (iii) cumulative effect of successive storages on water quality; and
 - (iv) cyanobacteria population changes in response to stratification in each storage; and
- (d) any proposal to change the monitoring program as a result of evaluation of the data.

Division 3 Operational reporting

19. Operational report

- (1) The licence holder must notify the chief executive within one business day—
 - (a) upon becoming aware of any of the following operational incidents—
 - (i) a non-compliance by the licence holder with this licence or with the operating and supply arrangements in the approved operations manual for this licence; and
 - (ii) instances of fish stranding and bank slumping within ponded areas associated with the infrastructure of the licence holder or downstream of the infrastructure to which this licence relates.;
 - (b) upon making a decision relating to—
 - (i) an initial announced allocation and/or its revision;
 - (ii) determining a water volume difference; or
 - (iii) any restrictions on the supply of high priority water allocations;
 - (c) of—
 - (i) ceasing the supply of medium priority water allocations because the water level in Coolmunda Dam is below 304.53 m AHD; or
 - (ii) recommencing the supply of medium priority water allocations because the water level in Coolmunda Dam has increased to a level equal to or above 304.66 m AHD.
 - (d) with details of any arrangements for addressing circumstances where the licence holder is unable to supply water allocations.
- (2) The licence holder must provide the chief executive, upon request and within the timeframe requested, a report which includes details of—
 - (a) a report on the occurrence of any of the operational incidents listed under subsection (1)(a) which must include details of—

- (i) the incident;
 - (ii) the conditions under which the incident occurred; and
 - (iii) any responses or activities carried out as a result of the incident;
- (b) relevant supporting information used in making a decision relating to—
- (i) an initial announced allocation and/or its revision;
 - (ii) determining a water volume difference;
 - (iii) any restrictions to the supply of high priority water allocations.

Division 4 Emergency reporting³

20. Emergency report

For any emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence, the licence holder must—

- (a) notify the chief executive upon discovery of the emergency; and
- (b) provide a report to the chief executive within five business days of notification, including—
 - (i) details of the emergency;
 - (ii) the conditions under which the emergency occurred;
 - (iii) any responses or activities carried out as a result of the emergency; and
 - (iv) any rules and requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

³ This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

Attachment 3 Dictionary

Term	Definition
AMTD	Adopted middle thread distance: the distance in kilometres, measured along the middle of a watercourse, from a specific point in the watercourse to the watercourse's mouth, the watercourse's junction with the main watercourse or the border between the State and New South Wales.
assignee	The person or entity to whom an interest or right to water is being transferred (e.g. seasonally assigned).
assignor	The person or entity who transfers an interest or right in water to an assignee (e.g. a seasonal assignment).
cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
component volumes	The volume of water associated with a particular release.
discharge	Discharge is the rate at which a volume of water passes a point in a stream or pipeline per unit of time. This could be measured in litres per second (L/s), cubic metres per second (cumecs m ³ /s) or in megalitres per day (ML/day).
EL	Elevation
headwater level	The level (or elevation) of the water immediately upstream of a dam, weir, or other hydraulic structure.
inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve which allows for water to be taken from the storage and discharged into the watercourse downstream of the storage.
interstate trade	A trade of a water allocation made between States in accordance with this plan.
m AHD	The Australian height datum, which references a level or height to a standard base level in metres.
minimum operating level	For a dam or weir, is the volume of water within the ponded area of the storage that cannot be released or used from the storage under normal operating conditions.
ponded area	Area of inundation at full supply level of a storage.
priority distribution	A distribution of water to each medium priority water allocation holder, following the start of each water year, to provide for up to a maximum balance of 60 megalitres in each individual storage account irrespective of the size of the individual storage account.
quarter or quarterly	Three-monthly intervals commencing at the start of the water year.
resource assessment	An assessment undertaken by the Dumaresq–Barwon Border Rivers Commission to determine availability of uncommitted water resources to be shared between states. Refer to water sharing agreement under the <i>New South Wales–Queensland Border Rivers Act 1946</i> .
tailwater level	The level (or elevation) of the water immediately downstream of a dam, weir or other hydraulic structure.
water year	The period from 1 July to 30 June.