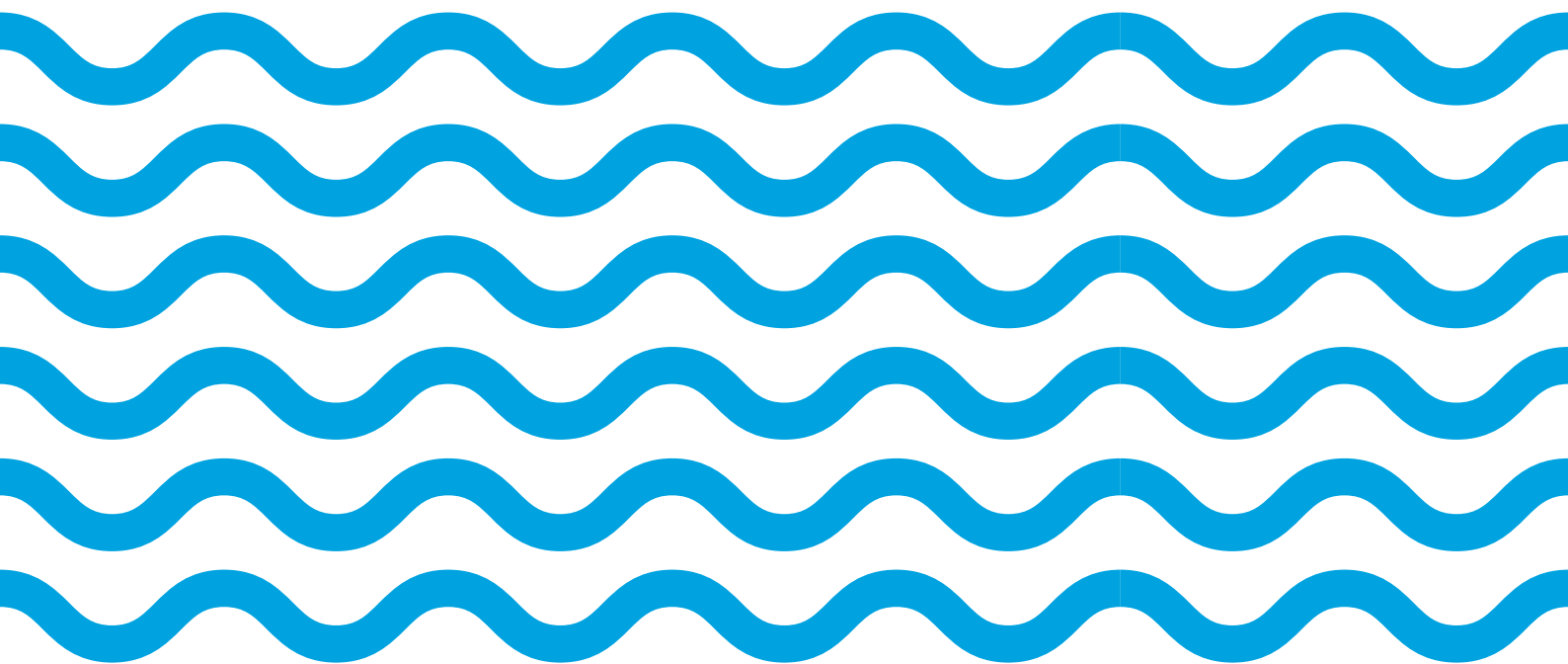




**Licence WU67
Environmental Flows
Annual Compliance
Report July 2021 to
June 2022**



Certificate of approval for issue of documents

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Executive Summary

This report summarises the overall performance, quality and volume of environmental flow (E-flow) releases for the period July 2021 to June 2022 as required under Clause C3 of the *Licence to Take Water WU67*¹ held by Icon Water under the *Water Resources Act 2007* (ACT).

During the reporting period Icon Water operated the Canberra water supply system, including the management of environmental flows under Licence WU67.

Icon Water advises that compliance with Licence WU67 was achieved during the reporting period.

The annual release requirements below each dam, compared to the actual flow measured below each dam was:

Outflow (GL)	Corin (410752)	Bendora (410747)	Cotter (410700)	Googong (410760)
Actual	123.2	151.6	240.5	333.6
Required	14.8	21.1	6.0	4.2

Water production for the Canberra and Queanbeyan community for the period 1 July 2021 to 30 June 2022 was:

Production Point	Volume (GL)
Mt Stromlo Water Treatment Plant (WTP)	40.3
Googong WTP	5.0
Cotter to Googong transfer	0.045
Total water produced for consumption	45.3

¹ This report is in accordance with the version of the Licence valid during the reporting period.

Introduction

Icon Water holds Licence to Take Water WU67 under the *Water Resources Act 2007 (ACT)*.

Clause C3 of the licence requires an annual environmental flow report to be provided to the Environment Protection Authority (EPA) by the end of October each year.

This report summarises the overall performance, quality and volume of environmental releases managed by Icon Water for the period July 2021 to June 2022.

During the reporting period Icon Water operated the Canberra water supply system, including the management of environmental flows under the licence.

Due to excellent communication between the organisations, any licence interpretation or operational requirements which may have impacted on compliance were quickly addressed ensuring that the requirements of the licence were met.

Compliance Reporting

The monitoring of the water quality, biological and stream health and stream flow has been carried out in accordance with Part D of the licence. The river gauge flow data, on-line temperature measurements, reservoir levels and surface temperatures have been obtained under contract from Australian Laboratory Services Group (ALS). Water production data is sourced from Icon Water. The biological, stream health and sediment surveys have been undertaken by the University of Canberra Institute Centre for Applied Ecology and ALS. These are included in the attachments to this report.

Additional data required to be submitted as part of this annual report are provided in attached files as listed at the end of this report. The data includes:

- Surface water temperature data for the four dams
- Macro-invertebrate monitoring for spring 2021 and autumn 2022.
- Hydstra data giving daily reservoir levels, stream flows and water temperature as appropriate.

Water production for the period 1 July 2021 to 30 June 2022 was 40.3 GL from the Mt Stromlo WTP and 5.0 GL from Googong WTP. The water produced at Mt Stromlo WTP included 40.0 GL sourced from Bendora reservoir and 0.3 GL sourced from Cotter reservoir. There was 45 ML of water transferred via the Cotter to Googong transfer system. The total water production for urban water supply for the period was 45.3 GL.

Compliance Analysis

Icon Water advises that compliance with the licence was achieved.

Notes on achieving compliance for each of the four reservoirs and two Murrumbidgee abstraction points are contained in Table 1.

Table 1: Compliance comments for Each Source

Source	Comments
Corin Reservoir	All requirements were achieved in the reporting period. The annual 550 MLD Pool flush was achieved on 13 August 2021. Flow variation of controlled releases between mid-September and end of December was changed from +/- 50% to +/- 25% to minimise displacement of Macquarie Perch eggs in downstream reaches
Bendora Reservoir	All requirements were achieved in the reporting period. The annual 550 MLD Pool flush was achieved on 13 August 2021. Flow variation of controlled releases between mid-September and end of December was changed from +/- 50% to +/- 25% to minimise displacement of Macquarie Perch eggs in downstream reaches
Cotter Reservoir	All requirements were achieved in the reporting period. Murrumbidgee to Cotter Pumps (M2C) did not operate during the reporting period due to flooding of the pump station. All environmental flows were from Cotter Dam.

Googong Reservoir	<p>All requirements were achieved in the reporting period.</p> <p>The majority of environmental flow releases were from a combination of the Googong Mini-Hydroelectric Generator and dam overflow.</p> <p>Releases were above licence requirements for the entire reporting period.</p>
Murrumbidgee River at Cotter Pump Station	<p>There was no Murrumbidgee River abstraction for raw water supply during the reporting period.</p>
Murrumbidgee River to Googong Reservoir	<p>The Murrumbidgee to Googong transfer system did not operate during the reporting period due to flooding of the pump station.</p>

Environmental Flow Release Data

Environmental releases are shown in Figures 1 – 4 while Table 2 details the numerical value of flow measured at the licence compliance sites. Operational comments in regard to Figure 1 – 4 are noted in Table 3.

Figure 1: Corin environmental releases – 2021/22

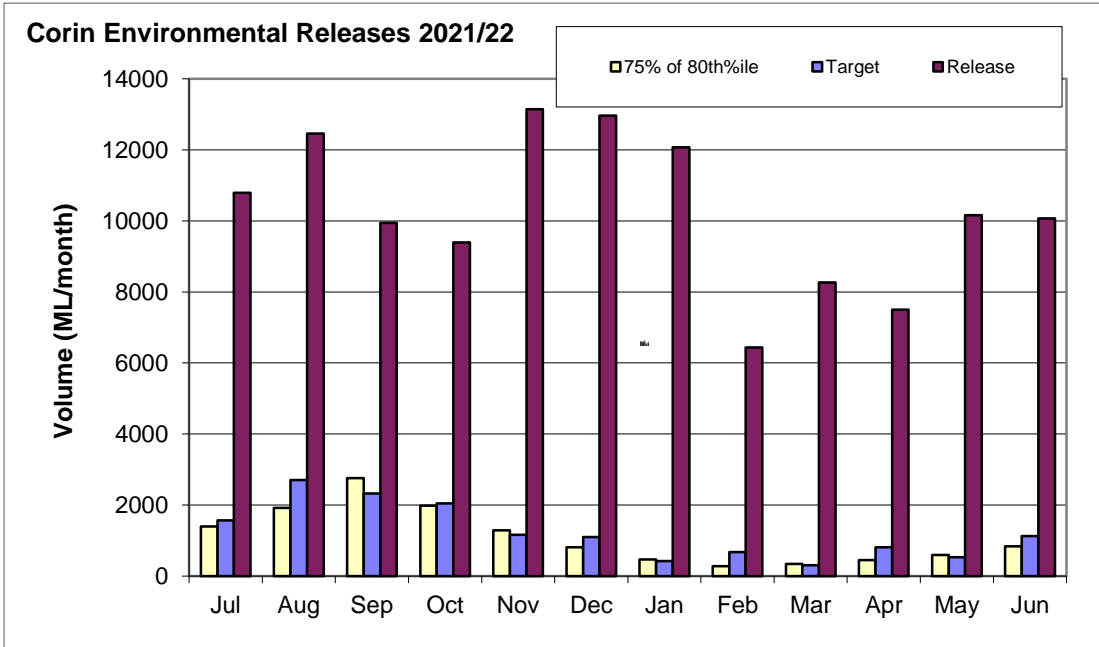


Figure 2: Bendora environmental releases – 2021/22

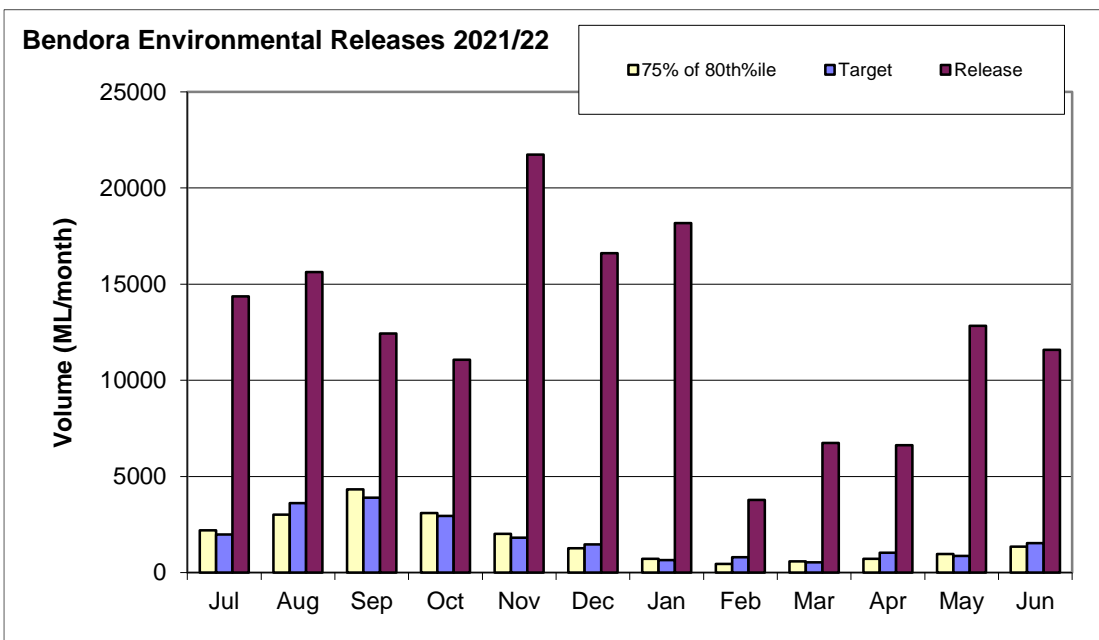


Figure 3: Cotter environmental releases – 2021/22

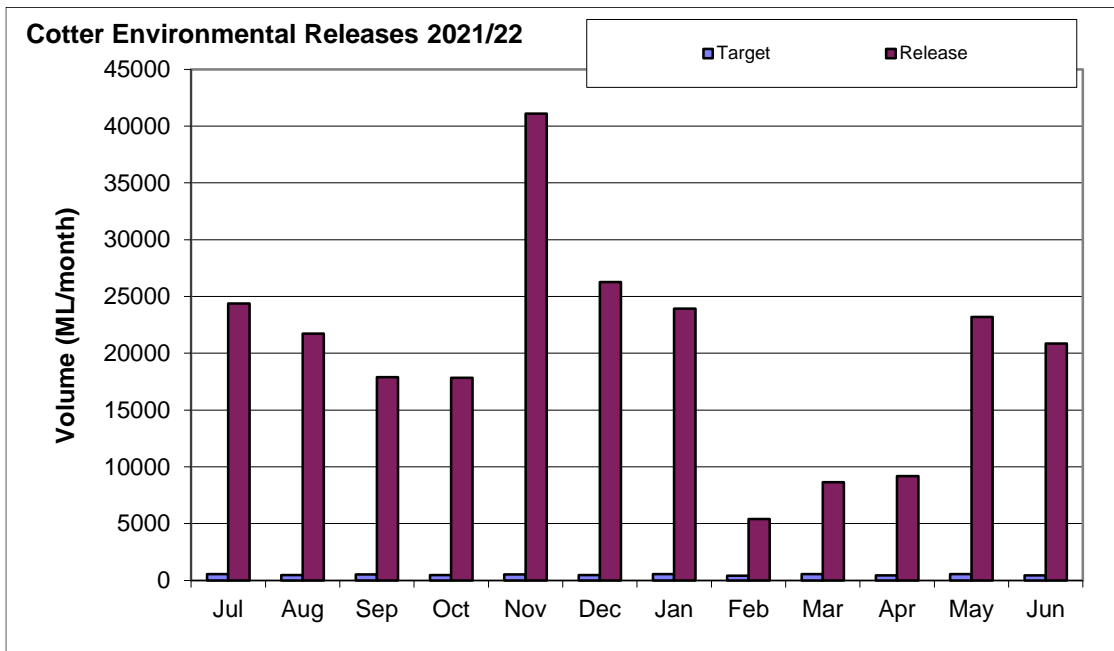


Figure 4: Googong environmental releases – 2021/22

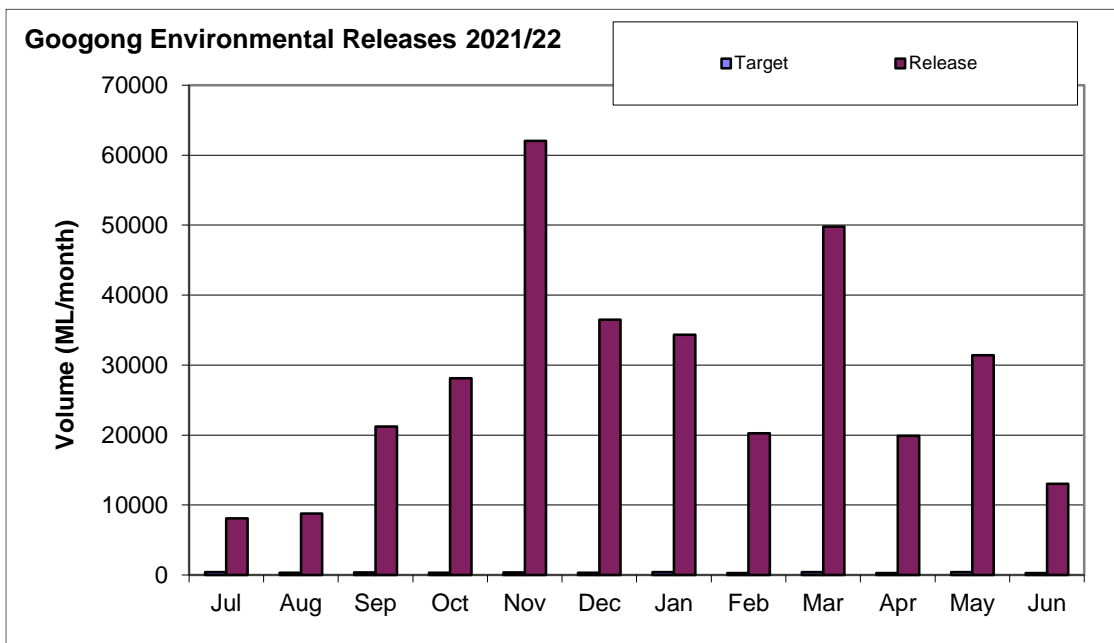


Table 2: Environmental flow releases from each dam

Month	Outflow (ML)	Corin (410752)	Bendora (410747)	Cotter (410700)	Googong (410760)
July	Actual	10792	14356	24373	8108
	Required	1571	1981	550	400
August	Actual	12462	15625	21746	8808
	Required	2706	3612	465	310
September	Actual	9950	12429	17904	21230
	Required	2328	3888	535	390
October	Actual	9392	11061	17836	28111
	Required	2044	2940	465	310
November	Actual	13148	21742	41109	62035
	Required	1161	1809	535	390
December	Actual	12962	16616	26281	36510
	Required	1097	1471	465	310
January	Actual	12072	18171	23929	34331
	Required	419	642	550	400
February	Actual	6435	3780	5418	20281
	Required	672	805	420	280
March	Actual	8269	6743	8646	49787
	Required	307	530	550	400
April	Actual	7498	6619	9180	19904
	Required	810	1026	450	300
May	Actual	10160	12838	23207	31430
	Required	530	865	550	400
June	Actual	10075	11584	20853	13021
	Required	1122	1530	450	300
Annual Totals	Actual	123213	151564	240482	333556
	Required	14766	21099	5985	4190

Operational Notes

Table 3 - Operational Notes of Interest

Reservoir	Comments
Corin	Corin Dam was at 100% capacity for the duration of the reporting period.
Bendora	<p>Bendora Dam was at 100% capacity for the majority of the reporting period. Between 25 March and 10 April, the dam releases were increased to lower dam level below 100% to facilitate a Dam Safety inspection of the stilling basin.</p> <p>Bendora supplied water to Stromlo Water Treatment plant between 1 July 2021 and 2 April 2022, and from 11 May for the remainder of the reporting period.</p>
Cotter	<p>Cotter Dam was at 100% capacity for the duration of the reporting period.</p> <p>Cotter Dam supplied water to Stromlo Water Treatment Plant from 12 – 14 January, 21 - 22 January and 26 May - 1 June for maintenance purposes on the Cotter Pump Station.</p>
Googong	<p>Googong Dam was at 100% capacity for the duration of the reporting period.</p> <p>Googong Dam supplied Googong Water Treatment Plant from 26 - 27 February, 8 March, 24 March and from 31 March to 17 May for commissioning of refurbished clarifiers and to allow Stromlo Water Treatment Plant to be shutdown for annual maintenance</p>
Murrumbidgee River at Cotter Pump Station	Abstraction from the Murrumbidgee river for raw water supply did not occur in the period between 1 July 2021 and 30 June 2022.
Murrumbidgee River to Googong Reservoir	M2G remained in Standby mode and did not operate in the period between 1 July 2021 and 30 June 2022.

Attachments

The monitoring of the water quality, biological and stream health and stream flow has been carried out in accordance with Part D of the licence. The attachments listed below details the results from the monitoring programs.

Document Name

Below Dams Spring 2021 Field Sampling Sheets
Below Dams Autumn 2022 Field Sampling Sheets
Below Dams Annual Report



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