



Annual Water Entity Report

Upper Ringarooma Irrigation District

September 2017



GENERAL

This Annual Report has been prepared by Tasmanian Irrigation Pty Ltd the responsible water entity for the Upper Ringarooma Irrigation District. The report covers the period of operation from 01 July 2016 to 30 June 2017.

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PART A – BACKGROUND

This Annual Report has been prepared to comply with the requirements of section 182 of the *Water Management Act 1999* (the “Act”). It provides details on the water entity, the irrigation district, the activities undertaken in administering the irrigation district and a full financial statement. The documents main purpose is to assist in showing due administration of the irrigation district by the responsible water entity for the preceding financial year.

The Upper Ringarooma Irrigation District covers 15,372 hectares and is situated within the Dorset municipality, refer to Figure 1. The common source of supply for the irrigation district is water from Dunns Creek, supplemented as required by surplus winter flows from the Ringarooma River, which is stored in the Dunns Creek Dam.

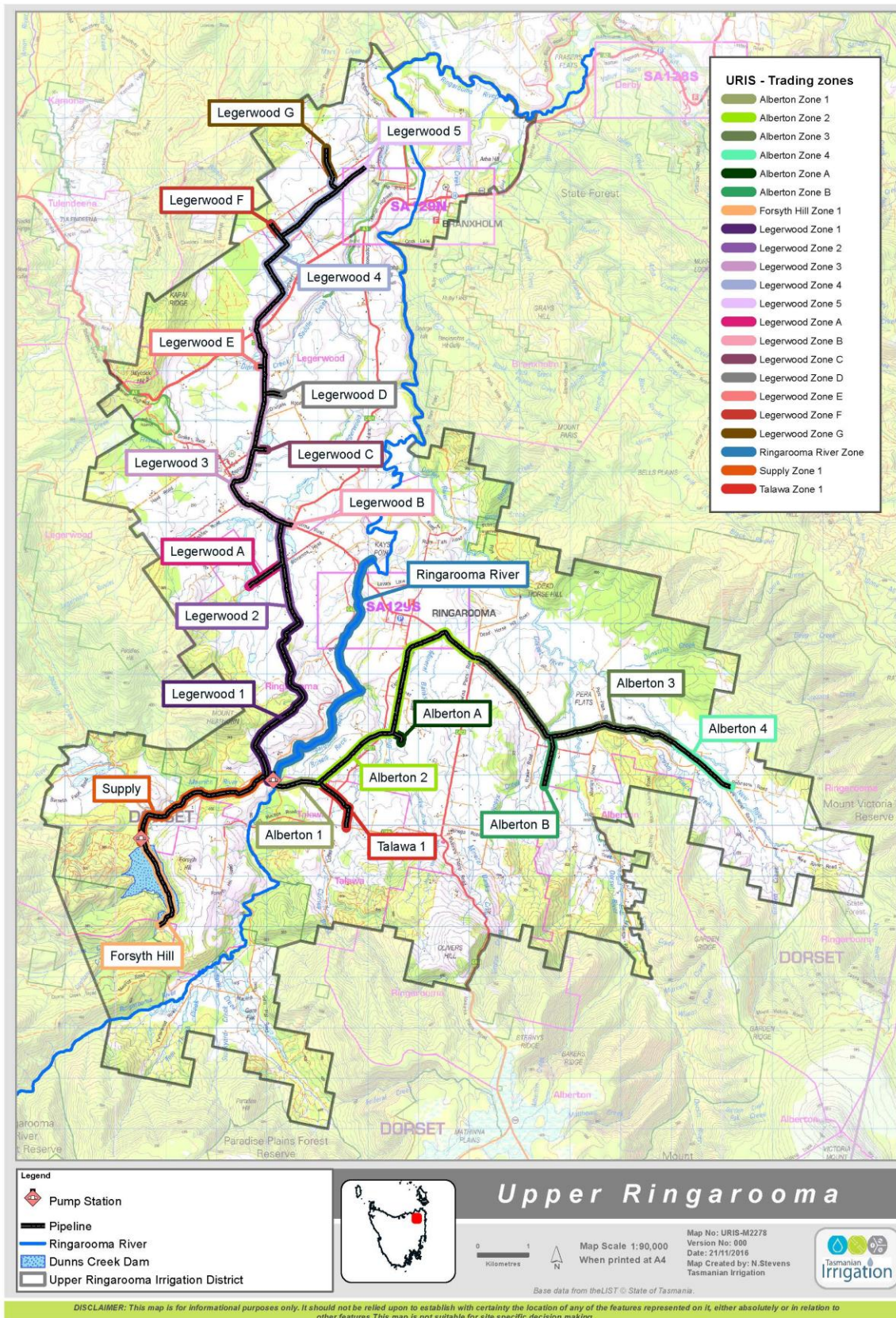


Figure 1: Upper Ringarooma Irrigation District

PART B – WATER ENTITY DETAILS

1. Tasmanian Irrigation Pty Ltd is a state-owned company that was established under the *Irrigation Company Act 2011*.
2. a) Tasmanian Irrigation did not request any alterations to the Upper Ringarooma Irrigation District boundary in 2016/17 under section 180 of the Act.
b) Tasmanian Irrigation did not acquire, sell or dispose of any land during its operation of the Upper Ringarooma Irrigation District during 2016/17.
c) Tasmanian Irrigation did not exercise any powers under the *Irrigation Clauses Act 1973* during its operation of the Upper Ringarooma Irrigation District during 2016/17.
3. If the water entity is a trust under the *Water Management Act 1999*, provide the following additional information.

Not Applicable.

PART C – ACTIVITIES UNDERTAKEN

1) Register of Irrigation Rights for the Upper Ringarooma Irrigation District as at 30 June 2017 (Table 1)

The total volume of water entitlements on issue in the Upper Ringarooma Irrigation District as at 30 June 2017 was 4,015 ML.

Serial number	Customer number	Customer	District	Type	Base Entitlement (Volume ML)	Current Entitlement (Volume ML)
					Owned outtri	Base +/- LT
IR-UR-01-001	486	JR & SL Wade	Upper Ringarooma	1	50.00	50.00
IR-UR-01-002	509	Forsyth Pastoral Pty Ltd	Upper Ringarooma	1	140.00	140.00
IR-UR-01-003	510	AF Bennett	Upper Ringarooma	1	30.00	30.00
IR-UR-01-004	511	BL, GK, CM & KJ Walsh	Upper Ringarooma	1	20.00	20.00
IR-UR-01-005	512	NF Bennett	Upper Ringarooma	1	20.00	20.00
IR-UR-01-007	524	RP Berwick	Upper Ringarooma	1	10.00	10.00
IR-UR-01-008	525	M & WJ McDougall ATF the McDougall Family Trust	Upper Ringarooma	1	25.00	25.00
IR-UR-01-009	526	PD & FQ Aldridge	Upper Ringarooma	1	40.00	40.00
IR-UR-01-010	527	PR & RE Heyes ATF the Peter Heyes Family Trust	Upper Ringarooma	1	240.00	240.00
IR-UR-01-011	528	SJ & S Van Eldik	Upper Ringarooma	1	40.00	40.00
IR-UR-01-012	529	ID & RA Edwards	Upper Ringarooma	1	250.00	250.00
IR-UR-01-013	530	JE & JA Cresswell	Upper Ringarooma	1	50.00	50.00
IR-UR-01-014	531	AW & KSA Carter	Upper Ringarooma	1	380.00	380.00
IR-UR-01-015	532	PK & JH Jeffrey ATF the Jeffrey Family Superannuation Fund	Upper Ringarooma	1	50.00	50.00
IR-UR-01-016	533	EG, JM, DJ & RL Ranson ATF the Ranson Springbanks Family Trust	Upper Ringarooma	1	60.00	60.00
IR-UR-01-017	534	CJ & JC Holmes	Upper Ringarooma	1	55.00	55.00
IR-UR-01-018	536	JH Carins	Upper Ringarooma	1	200.00	200.00
IR-UR-01-019	537	TJ Van Brecht & CF McCartie	Upper Ringarooma	1	10.00	10.00
IR-UR-01-020	538	BA & PR Cox	Upper Ringarooma	1	185.00	185.00
IR-UR-01-021	539	GJ & RM Wardlaw	Upper Ringarooma	1	35.00	35.00
IR-UR-01-022	541	SR & GJ Cox	Upper Ringarooma	1	560.00	560.00
IR-UR-01-023	542	F & E Edwards Pty Ltd ATF the F & E Edwards Family Trust	Upper Ringarooma	1	150.00	150.00
IR-UR-01-024	543	NL, BE, SD & KA Nailer T/A Mt Heathhorn	Upper Ringarooma	1	100.00	100.00
IR-UR-01-025	544	NL, MW, BE & JC Nailer	Upper Ringarooma	1	110.00	110.00
IR-UR-01-026	545	OA & SC Smith	Upper Ringarooma	1	100.00	100.00
IR-UR-01-027	546	Minstonette Pty Ltd ATF the Southview Family Trust	Upper Ringarooma	1	150.00	150.00
IR-UR-01-028	547	TP & SJ Branch	Upper Ringarooma	1	130.00	130.00
IR-UR-01-029	548	BJ & GE Thompson	Upper Ringarooma	1	185.00	185.00
IR-UR-01-030	552	HF Foster	Upper Ringarooma	1	420.00	420.00
IR-UR-01-031	553	BJ, GE & AJ Thompson	Upper Ringarooma	1	25.00	25.00
IR-UR-01-032	556	AL & J Johnstone	Upper Ringarooma	1	100.00	100.00
IR-UR-01-033	557	PN Berwick	Upper Ringarooma	1	25.00	25.00
IR-UR-01-034	572	PC Harper	Upper Ringarooma	1	20.00	20.00
IR-UR-TI-001	1	Tasmanian Irrigation	Upper Ringarooma	TI	1,685.00	1,685.00
IR-UR-01-035	1162	JA Williams & M Williams	Upper Ringarooma	1	50.00	50.00

Table 1 – Irrigation Right Register (2016-17)

2) Issuing of new irrigation rights for the Upper Ringarooma Irrigation District:

The following new irrigation rights were issued under the *Irrigation Clauses Act 1973* during 2016/17 for the Upper Ringarooma Irrigation District:

Customer	Volume - base	Volume - current
JA Williams & M Williams	50.00	50.00
TOTAL	50.00	50.00

No water licences under the *Water Management Act 1999* were converted to irrigation rights under the *Irrigation Clauses Act 1973*.

3) Water Restrictions

No water restrictions were applied to the Upper Ringarooma Esk Irrigation District in 2016/2017 by Tasmanian Irrigation.

4) Water supply for irrigation purposes:

- A total of volume of 6,500 ML of Surety 5 water was allocated via Water Licence 9384 for the operation of the Upper Ringarooma Irrigation District in 2016/17. Water sourced via this licence is stored within the Dunns Creek dam.
- A total volume of 1,566.3 ML was delivered for the purposes of irrigation during the operation of the Upper Ringarooma Irrigation District in 2016/17. Of this volume, 1,520.9 ML was delivered during the summer irrigation season under a system of irrigation rights, 30.00 ML was delivered under a Water Supply Agreement during this same summer irrigation season, and 15.40 ML was delivered under a Water Supply Agreement outside of the irrigation season (between April and October 2016).
- A total of 56.12 ML was released to one irrigator via the Ringarooma River. Of this amount 1.17ML was released to account for transmission losses (see Section 10).
- Figure 2 shows the location and amounts of summer irrigation right water used in the 2016/2017 reporting period.
- The crops primarily irrigated in the Upper Ringarooma Irrigation District include pasture, potatoes and hops.

5) Water supply for town water supply and stock and domestic needs:

Not applicable

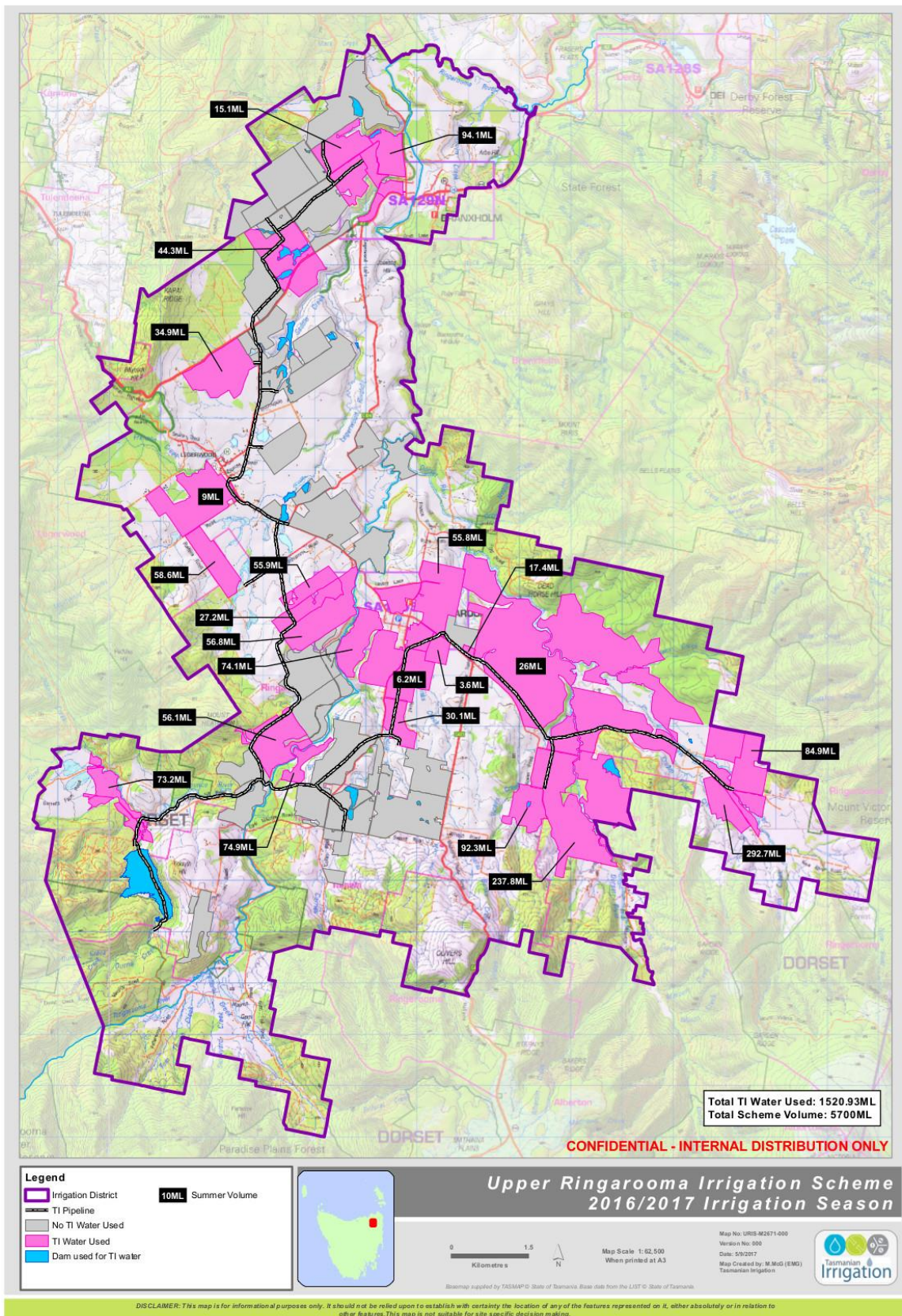


Figure 2: Map of summer irrigation rights water used in the Upper Ringarooma Irrigation District during 2016/17

6) Environmental flows:

Water Licence 9384 contains two allocations for the Upper Ringarooma Irrigation Scheme. One allocation relates to Dunns Creek upon which Dunns Creek dam is located; the other relates to a pump fill take from the Ringarooma River. The Dunns Creek allocation has environmental passing flow conditions, the Ringarooma River offtake has a site-specific cease to take at the Cottons Bridge pump station. Both allocations have a cease to take flow component as detailed in the Ringarooma River Catchment Water Management Plan.

a) Dunns Creek Dam

The Dunns Creek Dam has a telemetered 'v' notch weir at the top of the dam that provides dam inflow data into the operation's SCADA system. DPIPWE's water licence conditions for passing environmental flows (which are based on the inflows) and cease to take provisions, are incorporated into the SCADA operating system which informs the operation as to when water can be taken (and must be passed). This information is also delivered into DPIPWE's Aquarius database.

In accordance with condition 5 of Water Licence 9384, water was not captured in Dunns Creek Dam during the take period when inflows were less than 12 ML/day. When inflows were between 12 ML/day and 132 ML/day, one third of the inflow was released from the dam and when inflows were above 132 ML/day, a minimum of 52 ML/day was released from the dam. All flows entering the dam outside of the take period were passed downstream. No 'cease to take flows' were implemented during the take period.

Figure 3 shows a graph of the weekly inflows and outflows from Dunns Creek Dam for 2016/17 period.

b) Ringarooma River Take

No water was pumped from the Ringarooma River into Dunns Creek Dam during the 2016/17 period.

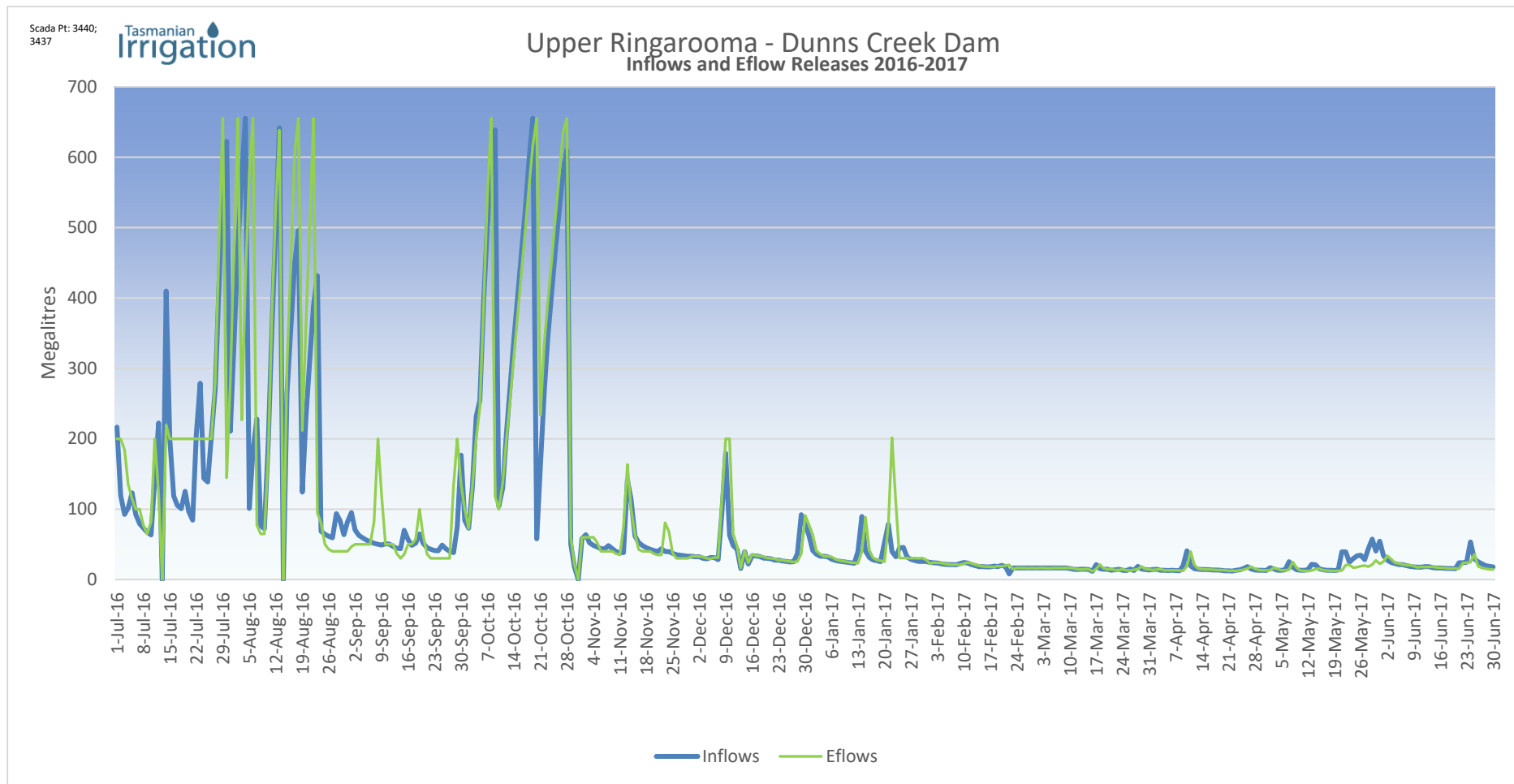


Figure 3 – Graph of inflows and outflows from Dunns Creek Dam for 2016/17 period

(Communications issues on 13/7, 14/8 and 31/10 2016)

7) Dealings in irrigation rights:

During 2016/17, the transfers outlined in Tables 3, 4, and 5 were approved within the Upper Ringarooma Irrigation District. No other dealings in irrigation rights occurred.

PERMANENT TRANSFERS

The permanent transfers of Irrigation Rights for Upper Ringarooma Irrigation District registered during the 2016/17 year are shown below:

Transferor	Transferee	Transferor's IR	Transferee's IR	Volume	Date of effect
					Contract/appr
AL Williams	JA Williams & M Williams	IR-UR-01-006	IR-UR-01-035	50.00	10/04/2017

LIMITED TERM TRANSFERS

There were no Limited Term Transfers in the Upper Ringarooma Irrigation District during the 2016/17 year.

SHORT TERM TRANSFERS

There were no Short Term Transfers in the Upper Ringarooma Irrigation District during the 2016/17 year.

8) Private sales of water:

Private sales of water between entitlement holders are recorded as Permanent Transfers (refer section 7 of this report).

9) Management of related resources

a) Water Meters

Water meters have been installed on all offtakes where Tasmanian Irrigation water is supplied.

Approximately 97% of water for the season was provided by direct pipeline and meters on these offtakes are read at the beginning and end of the season.

Water is released from the Cottons Bridge irrigation valve for Ringarooma River takes (3% of TI water delivered this season to the one irrigator) at a rate ordered by the irrigator. Meter readings were taken each time and manual records taken and passed on to DPIPW's RWMO. This irrigator's water was generally taken in conjunction with other water licence allocations.

b) Water Quality Monitoring

The water quality monitoring program for the Upper Ringarooma Irrigation District has been designed to comply with the approval obligations under the Environmental Protection Biodiversity Conservation Act (specifically EPBC 2013/6787 Conditions 3b, 3c and 3d).

Monitoring of water quality within the Upper Ringarooma Irrigation District is completed at eight sites. One monitoring site above the Dunns Creek Dam is used as a control while the remaining seven sites are utilised to identifying potential operational impact (Table 2 and Figure 4). Monthly water quality data are assessed against site-specific trigger values (Table 3), in order to determine exceedances of parameter thresholds. Separate water quality value table are provided for dissolved oxygen, temperature, total nitrogen and total phosphorus (Tables 4-7 and Figures 5-8, respectively). Management assessment against threshold exceedances utilised conditions at sampling, operational delivery for the month and past seasonal patterns. Water quality values and management determination for electrical conductivity, pH and turbidity are provided in Table 8.

Further data and assessment to support the claims as to whether contingency management was required and the basis for determining this, are contained in the document "Tasmanian Irrigation - Water Quality Report Card 2016/17".

Table 2 Upper Ringarooma Irrigation District water quality monitoring sites (MGA (GDA 94) zn55)
Italics indicates those monitoring sites that are potentially influenced by operations (including impoundment).

Site Code	Waterway	Easting	Northing	Description
URIS_1	Dunns Creek	556638	5430179	Site ~1.3 km below Dunns Creek Dam
URIS_2	Ringarooma River	564414	5444120	Site at bottom end of district (Derby Back Rd)
URIS_3	Legerwood Rivulet	561289	5442769	Site above confluence with Ringarooma River, near end of Legerwood spurline
URIS_4	Dorset River	562713	5436070	Site above confluence with Ringarooma River
URIS_5	Ringarooma River	559145	5430916	Site ~4km downstream from Dunns Creek Dam, Pumpstation at Cottons Bridge
URIS_6	Maurice River	558365	5430664	Site ~3.5km downstream from Dunns Creek Dam, above confluence with Ringarooma River
URIS_7	Dunns Creek Dam	556284	5429414	Impoundment
URIS_8	Dunns Creek	556821	5428025	Site immediately above Dunns Creek Dam

Table 3: Site-specific trigger values for Upper Ringarooma Irrigation District sites

Site Code	Site Description	Temp (°C)		Turb (NTU)	EC (us/cm)		pH		DO (mg/L)		DO (% saturation)		TN (mg/L)	TP (mg/L)
		20th	80th	80th	20th	80th	20th	80th	20th	80th	20th	80th	80th	80th
URIS_1	Dunns Creek below dam	8	14	12	38	44	7.1	7.7	9.2	11.6	94	100	0.650	0.024
URIS_2	Ringarooma River, Derby Back Rd	8	17	7	64	74	7.2	7.6	9.0	11.2	94	100	1.120	0.028
URIS_3	Legerwood Rivulet	10	16	14	99	113	7.0	7.4	8.9	10.4	89	98	1.600	0.046
URIS_4	Dorset River	9	16	4	65	75	7.0	7.5	9.2	11.3	96	101	1.516	0.023
URIS_5	Ringarooma River, Cottons Bridge	8	15	5	47	52	7.1	7.6	9.5	11.9	97	102	0.910	0.028
URIS_6	Maurice River	7	14	6	44	51	7.0	7.5	9.4	11.5	95	100	0.704	0.025
URIS_7	Dunns Creek Dam	7	14	22	39	40	7.1	7.3	9.7	11.1	95	103		
URIS_8	Dunns Creek above dam	6	12	2	33	34	6.8	7.5	10.2	12.2	96	102	0.396	0.019

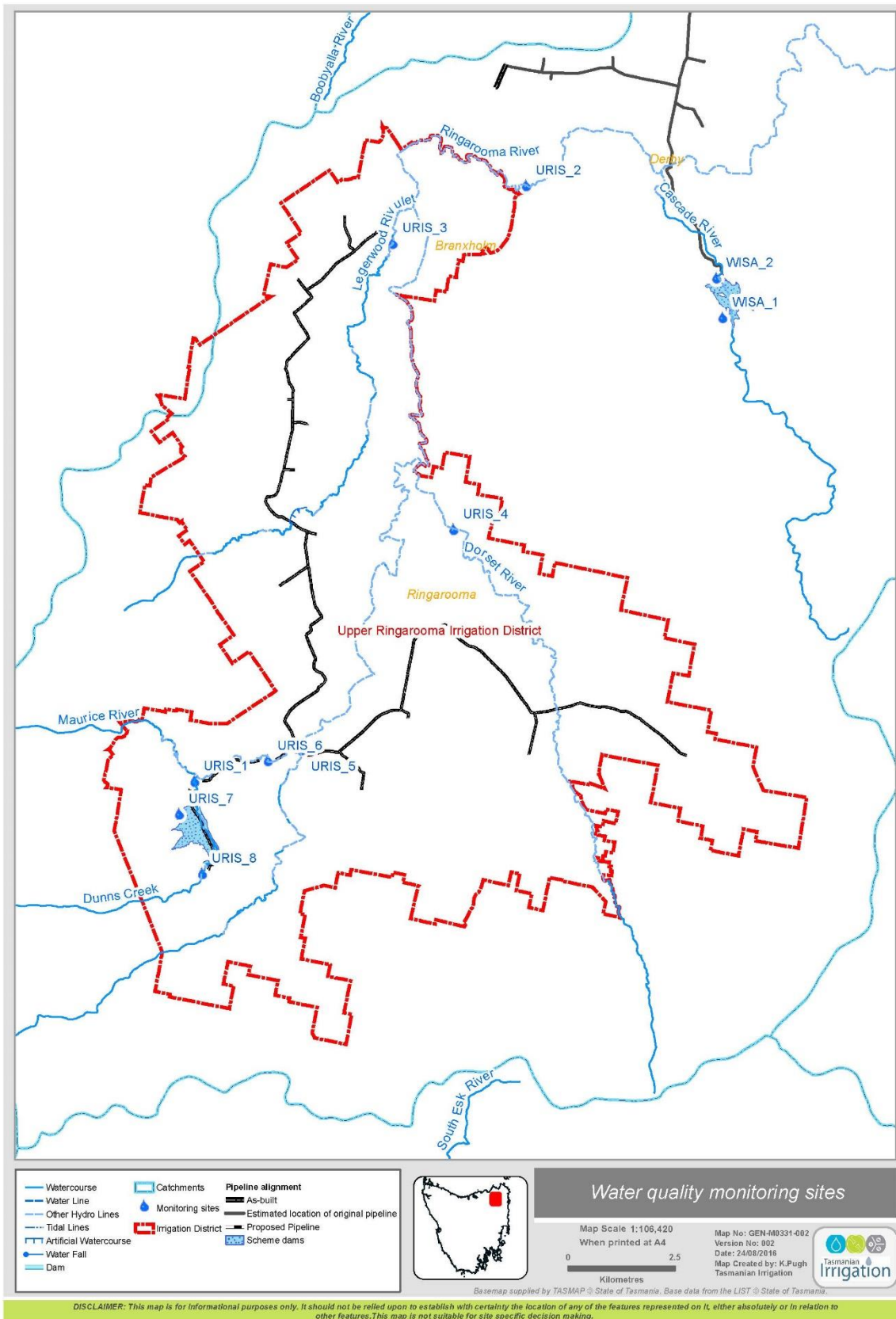


Figure 4: Water quality monitoring sites in the Upper Ringarooma Irrigation District

Table 4: Upper Ringarooma Irrigation District Dissolved Oxygen water quality data: monitoring period: July 2016 – June 2017.

Data that exceeded the URIS site-specific triggers presented in Table 2 are highlighted. Italics indicates those monitoring sites that are potentially influenced by operations. ND denotes non-delivery, WB denotes watching brief implemented, P denotes current monitoring follows previous reporting period pattern, C denotes operational exceedances follow control exceedances.

Analyte	Site	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Dissolved Oxygen Concentration (mg/L)	URIS_1	7.3	10.9	11.2	10.0	9.5	7.4	9.5	8.3	8.0	8.9	9.6	10.2
	URIS_2	7.1	10.5	9.2	9.1	8.4	8.8	9.0	8.9	8.1	8.6	9.0	10.2
	URIS_3	6.8	9.8	9.0	8.7	7.8	8.7	8.3	9.0	7.8	8.1	8.4	10.6
	URIS_4	7.4	10.8	11.0	9.5	8.8	8.5	8.3	9.8	8.7	8.8	9.1	11.2
	URIS_5	8.3	11.5	11.2	10.2	10.9	8.1	9.1	9.6	7.8	11.3	10.7	10.4
	URIS_6	8.1	11.2	11.3	10.1	9.3	7.1	9.0	8.4	7.7	9.4	10.6	10.0
	URIS_7	7.2	10.5	10.8	9.7	10.2	8.0	9.3	8.4	8.5	8.3	7.6	6.0
	URIS_8	7.8	12.2	11.0	11.9	11.6	8.8	8.8	9.9	8.7	11.6	10.9	11.3
Scheme Estimated Billable Water	ML	0.0	0.0	0.0	0.0	17.0	285.3	337.3	410.4	213.6	74.4	25.4	5.4
Exceedance during Operations		No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contingent Management Required		N/A	N/A	N/A	N/A	No	No	No	No	No	No	No	Yes
Management Determination		ND	ND	ND	ND	P	P/C	P/C	P/C	P/C	P	P	WB

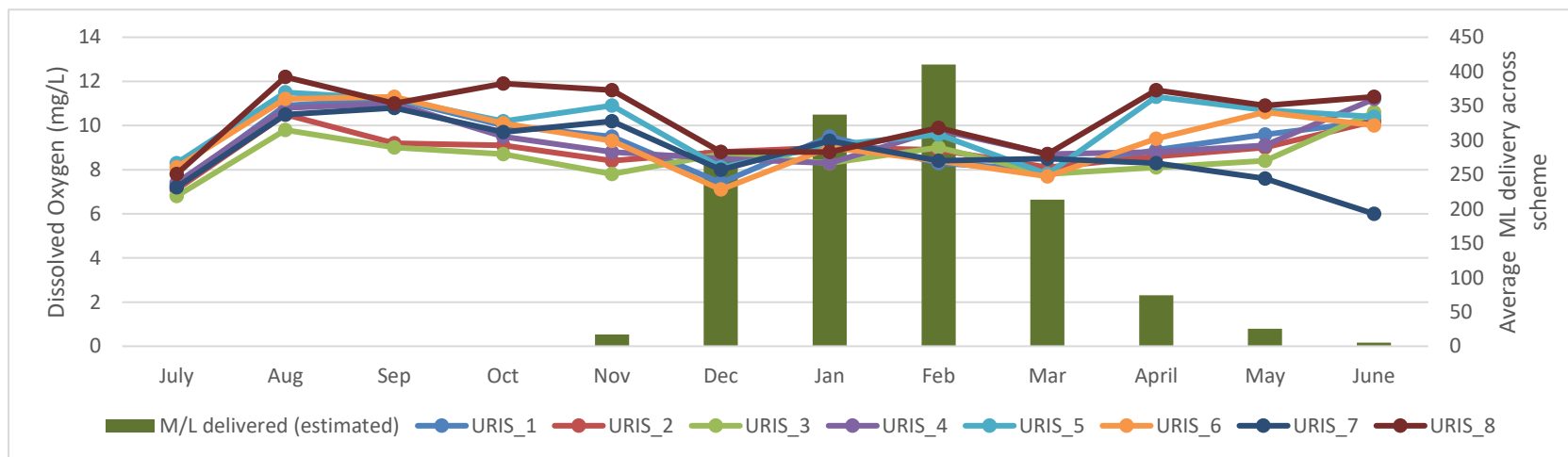


Figure 5: Dissolved Oxygen Concentration at Upper Ringarooma Irrigation District monitoring sites during the annual reporting period, 2016/2017.

Table 5: Upper Ringarooma Irrigation District Temperature water quality data: monitoring period: July 2016 – June 2017.

Data that exceeded the URIS site-specific triggers presented in Table 2 are highlighted. Italics indicates those monitoring sites that are potentially influenced by operations. ND denotes non-delivery, WB denotes watching brief implemented, C denotes operational exceedances follow control exceedances, NR denotes non-required.

Analyte	Site	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Temperature (°C)	URIS_1	8.7	7.5	8.7	10.4	11.8	17.2	14.3	17.4	16.9	15.4	11.0	8.6
	URIS_2	10.0	7.4	10.3	9.7	12.3	17.3	16.6	16.2	18.5	13.9	10.2	7.4
	URIS_3	10.1	8.4	11.8	11.5	14.2	18.6	16.9	14.0	17.5	13.4	10.2	8.0
	URIS_4	10.4	9.8	7.9	10.4	13.0	16.2	16.1	14.2	17.5	13.1	10.8	8.1
	URIS_5	9.7	6.4	8.1	8.8	10.9	15.2	14.2	12.1	16.7	9.5	6.7	6.4
	URIS_6	8.9	6.9	8.1	9.4	11.7	16.8	14.4	13.7	15.9	10.5	7.4	7.4
	URIS_7	9.3	8.0	9.9	11.2	15.7	22.1	19.9	21.4	22.1	17.0	12.0	11.0
	URIS_8	8.3	7.0	7.9	7.6	8.9	13.5	13.4	11.4	15.0	9.8	6.6	7.0
Scheme Estimated Billable Water	ML	0.0	0.0	0.0	0.0	17.0	285.3	337.3	410.4	213.6	74.4	25.4	5.4
Exceedance during Operations		No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contingent Management Required		N/A	N/A	N/A	N/A	No	Yes	No	Yes	Yes	No	N/A	N/A
Management Determination		ND	ND	ND	ND	NR	C, WB (7)	C	WB (1 & 7)	C, WB (7)	NR	ND	ND

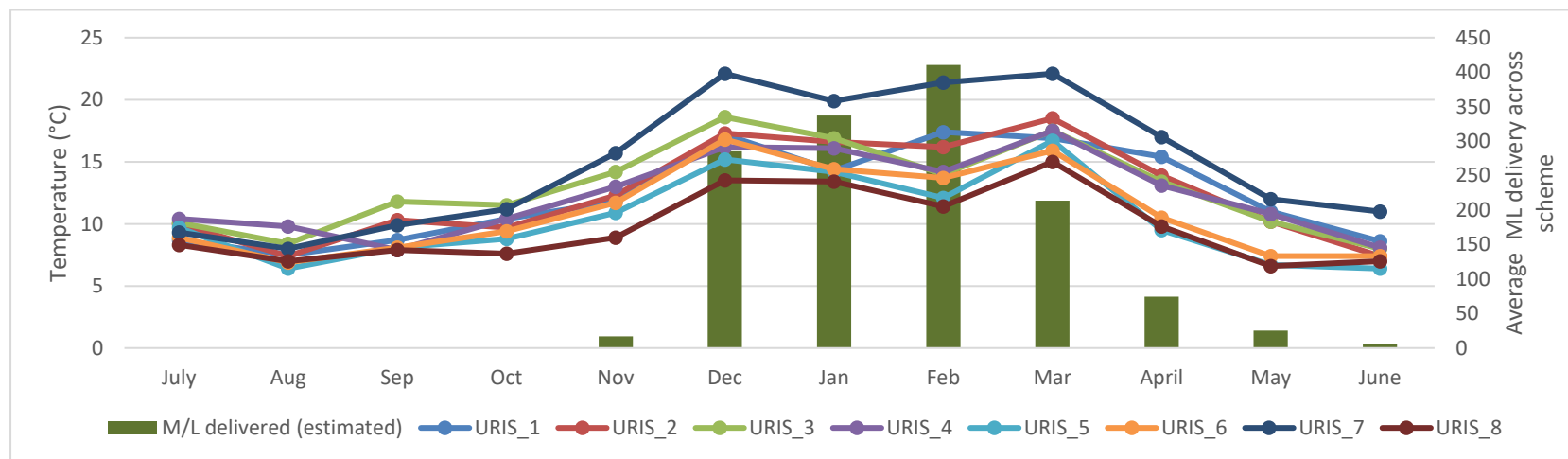


Figure 6: Temperature at Upper Ringarooma Irrigation District monitoring sites during the annual reporting period, 2016/2017.

Table 6: Upper Ringarooma Irrigation District Total Nitrogen water quality data: monitoring period: July 2016 – June 2017.

Data that exceeded the URIS site-specific triggers presented in Table 2 are highlighted. Italics indicates those monitoring sites that are potentially influenced by operations. ND denotes non-delivery, NS denotes not sampled (as per monitoring program), WB denotes watching brief implemented, C denotes operational exceedances follow control exceedances, NR denotes non-required, '-' denotes no available data.

Analyte	Site	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Total Nitrogen (mg/L)	URIS_1	0.7	0.30	0.30	0.55	-	0.85	1.10	1.20	0.15	0.25	0.20	0.55
	URIS_2	1.6	1.80	0.15	1.30	-	0.70	0.50	0.90	0.50	1.80	0.65	0.50
	URIS_3	1.9	1.80	0.90	1.60	-	1.40	1.10	0.95	0.95	1.30	1.10	1.30
	URIS_4	0.65	1.90	0.25	1.10	-	1.60	1.10	1.40	0.95	1.20	1.10	0.90
	URIS_5	0.25	1.20	0.40	0.65	-	0.45	0.30	0.45	0.30	0.35	0.35	0.40
	URIS_6	0.35	0.90	0.45	0.65	-	0.65	0.20	0.20	5.70	0.25	0.25	0.30
	URIS_7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	URIS_8	0.45			0.40	-		0.50			0.20		
Scheme Estimated Billable Water	ML	0.0	0.0	0.0	0.0	17.0	285.3	337.3	410.4	213.6	74.4	25.4	5.4
Exceedance during Operations		No	No	No	No	-	Yes	Yes	Yes	Yes	Yes	No	No
Contingent Management Required		N/A	N/A	N/A	N/A	-	No	No	Yes	Yes	Yes	N/A	N/A
Management Determination		ND	ND	ND	ND	-	NR	C	WB	WB	WB	ND	ND

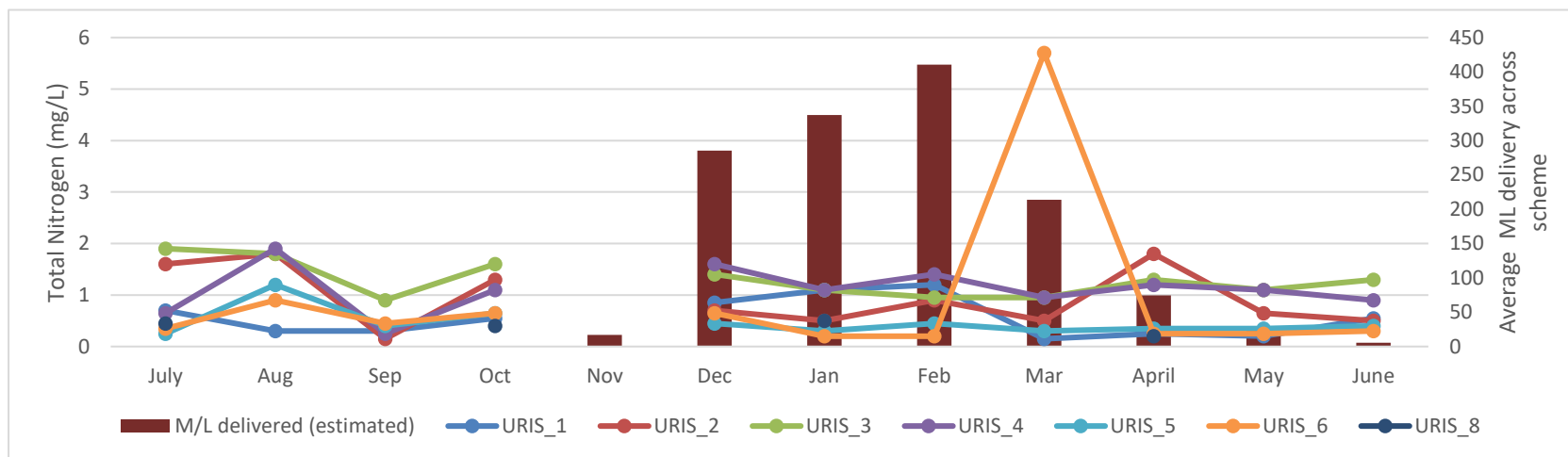


Figure 7: Total Nitrogen at Upper Ringarooma Irrigation District monitoring sites during the annual reporting period, 2016/2017.

Table 7: Upper Ringarooma Irrigation District Total Phosphorus water quality data: monitoring period: July 2016 – June 2017.

Data that exceeded the URIS site-specific triggers presented in Table 2 are highlighted. Italics indicates those monitoring sites that are potentially influenced by operations. ND denotes non-delivery, NS denotes not sampled (as per monitoring program), WB denotes watching brief implemented, NR denotes non-required, '-' denotes no available data.

Analyte	Site	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Total Phosphorus (mg/L)	URIS_1	<0.01	<0.01	0.03	<0.01	-	0.03	<0.01	<0.01	<0.01	<0.01	0.03	0.02
	URIS_2	0.01	0.01	<0.01	0.01	-	0.02	<0.01	0.01	<0.01	<0.01	0.03	0.04
	URIS_3	0.04	0.01	0.04	0.03	-	0.03	<0.01	0.02	0.01	<0.01	0.07	0.06
	URIS_4	0.05	<0.01	0.01	0.01	-	0.02	<0.01	<0.01	<0.01	<0.01	0.06	0.03
	URIS_5	0.02	<0.01	0.03	0.01	-	0.05	<0.01	0.01	0.01	<0.01	0.06	0.03
	URIS_6	0.02	0.01	0.03	0.01	-	0.02	<0.01	0.03	0.11	0.02	0.03	0.03
	URIS_7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	URIS_8	<0.01			<0.01	-		<0.01			<0.01		
Scheme Estimated Billable Water	ML	0.0	0.0	0.0	0.0	17.0	285.3	337.3	410.4	213.6	74.4	25.4	5.4
Exceedance during Operations		No	No	No	No	-	Yes	No	Yes	Yes	No	Yes	Yes
Contingent Management Required		N/A	N/A	No	N/A	-	Yes	No	No	Yes	N/A	Yes	Yes
Management Determination		ND	ND	NR	ND	-	WB (5)	NR	NR	WB	ND	WB (3,4,5)	WB (3)

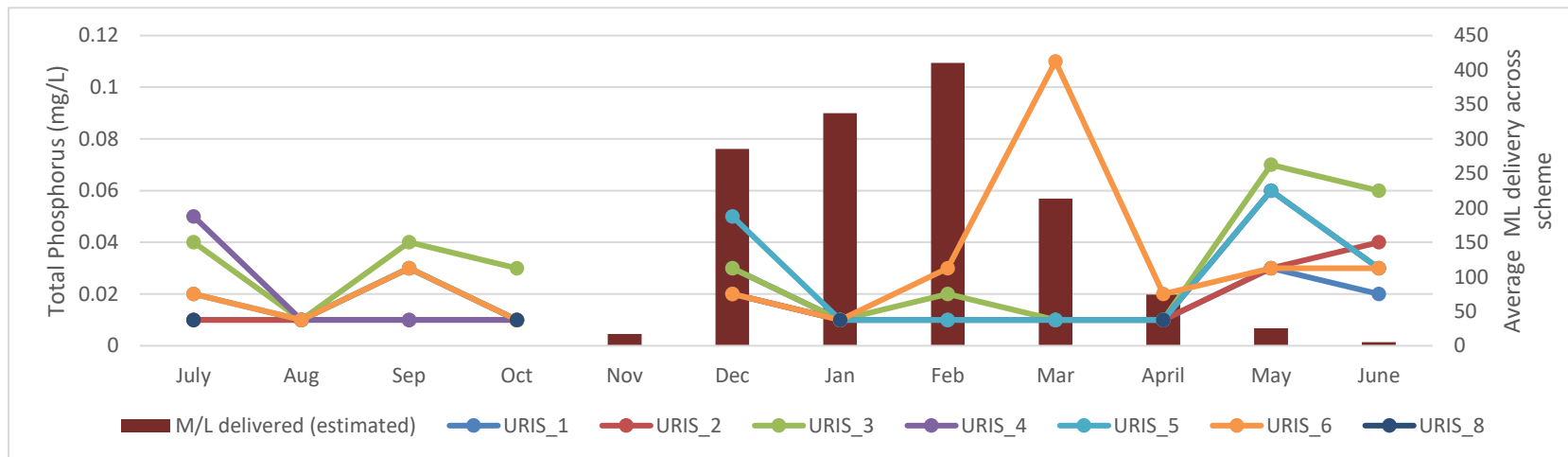


Figure 8: Total Phosphorus at Upper Ringarooma Irrigation District monitoring sites during the annual reporting period, 2016/2017.

Table 8: Upper Ringarooma Irrigation District Electrical Conductivity, pH and turbidity water quality results.

Data that exceeded the URIS site-specific triggers presented in Table 2 are highlighted. Italics indicates those monitoring sites that are potentially influenced by operations. ND denotes non-delivery, NR denotes non-required, HF denotes high flow at sample.

Analyte	Site	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Electrical Conductivity (µs/cm)	URIS_1	42.2	39.6	43.1	39.9	52.7	47.5	58.0	53.1	48.3	44.3	45.4	59.7
	URIS_2	77.3	73.2	67.5	66.8	68.7	73.8	70.2	69.7	74.3	76.2	72.8	65.8
	URIS_3	108.6	102.2	100.4	91.6	100.5	103.5	108.3	110.4	114.1	111.5	111.9	107.8
	URIS_4	77.3	78.0	32.6	65.2	71.6	74.4	77.0	76.2	78.9	80.1	80.4	63.1
	URIS_5	42.3	49.6	46.6	42.5	49.4	52.6	49.4	50.4	53.1	53.5	53.5	47.3
	URIS_6	41.9	43.6	45.4	42.3	45.9	48.4	46.0	46.4	49.1	49.2	49.2	46.8
	URIS_7	38.7	36.3	36.5	35.8	37.2	37.6	37.6	38.0	39.1	40.8	40.4	41.2
	URIS_8	29.8	32.6	33.0	30.0	33.6	34.8	33.8	34.0	35.8	37.1	37.4	34.1
pH	URIS_1	6.5	6.6	6.6	6.4	6.6	7.1	7.1	7.6	7.6	7.5	6.8	6.6
	URIS_2	6.3	6.5	6.5	6.4	6.3	6.8	6.9	7.2	7.6	7.2	7.2	6.9
	URIS_3	6.5	6.5	6.6	6.4	6.0	7.0	7.1	7.5	7.5	7.3	7.2	6.9
	URIS_4	6.2	6.8	6.5	6.4	6.3	6.9	6.8	7.4	7.5	7.1	7.2	6.8
	URIS_5	6.6	6.8	6.4	6.5	6.2	6.9	6.8	7.5	7.3	7.8	7.1	6.8
	URIS_6	6.5	6.8	6.5	6.6	6.4	6.8	6.9	7.5	7.5	7.5	6.9	6.8
	URIS_7	6.5	6.5	6.5	7.0	6.5	6.9	7.1	7.2	7.3	7.3	6.7	6.6
	URIS_8	6.4	6.6	6.5	7.2	6.3	7.0	6.8	7.4	6.5	7.8	7.1	6.9
Turbidity (NTU)	URIS_1	5.55	4.57	4.67	3.59	2.36	2.89	2.69	2.89	3.83	2.61	3.86	3.33
	URIS_2	11.30	7.06	3.53	10.50	2.42	3	2.39	3.04	2.73	1.95	4.26	3.41
	URIS_3	17.30	12.60	7.05	17.00	5.08	4.49	2.74	3.44	3.17	2.92	8.70	7.6
	URIS_4	18.00	2.85	2.09	3.29	2.14	1.8	1.60	1.54	1.26	1.29	1.24	1.77
	URIS_5	9.65	4.00	7.73	3.29	2.44	3.66	2.37	2.99	3.3	1.99	2.21	3.12
	URIS_6	7.49	4.98	2.74	3.61	2.02	3.86	2.36	1.84	2.03	2.22	4.45	3.02
	URIS_7	8.35	3.96	5.30	6.20	2.04	2.89	1.49	5.22	1.18	3.12	3.46	4.14
	URIS_8	2.37	1.27	1.73	1.66	1.74	2.2	1.19	1.28	1.18	1.24	1.64	2.39
Scheme Water Delivery	ML	0.0	0.0	0.0	0.0	17.0	285.3	337.3	410.4	213.6	74.4	25.4	5.4
Management Action		N/A	N/A	N/A	N/A	No	No	No	No	No	No	No	No
Management Determination		HF, ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR

c) Aquatic Habitat Monitoring – Giant Freshwater Crayfish

Biological monitoring, using the AusRIVAS methodology, is undertaken every Autumn and Spring to comply with the aquatic habitat monitoring program for Giant Freshwater Crayfish (*Astacopsis gouldi*) under conditions outlined under EPBC referral (2013/6787).

Monitoring during the reporting period was conducted at three selected sites; Legerwood Rivulet, Maurice River and the Ringarooma River. Complete assessments were made of all sites under the AusRIVAS methodology during the current reporting period.

During Spring the Legerwood Rivulet site demonstrated an impaired habitat condition, with an improvement in habitat condition (from impaired to slightly impaired), observed during Autumn. The Maurice River site demonstrated undisturbed habitat condition during both monitoring events during the reporting period. Ringarooma River demonstrated slightly impaired habitat conditions throughout the reporting period. The habitat conditions observed in the current reporting period are generally consistent with the previous reporting year; minor improvements were noted during the Autumn assessment in Legerwood Rivulet while minor degradation was observed in the Ringarooma River.

No substantial change to instream habitat in the Upper Ringarooma Irrigation district representative sites, from previous assessments to the current reporting period, were observed. Additionally, no changes to land-use were evident, however minor vegetation composition changes were noted in Legerwood Rivulet.

d) Aquatic Habitat Monitoring – Green and Gold Frog

Habitat condition monitoring is undertaken every Autumn and Spring to comply with the habitat condition monitoring program for the green and gold frog (*Litoria raniformis*) under conditions outlined under EPBC referral (2013/6787). Three representative sites were selected within the Upper Ringarooma Irrigation District to monitor habitat condition. Due to transitional periods in staffing at Tasmanian Irrigation and extensive searches of data records, no data for the Spring URIS green and gold frog assessment could be located.

No green and gold frogs were identified from the three sites during the reporting period, however previous records have established the presence of the species within the monitoring sites. No change in habitat, other than changes in water level with the permanent dam, have occurred since previous assessments in the previous reporting period with sufficient refugia and high connectivity occurring within this site. There was no observed loss of habitat corridors, with contiguous suitable habitat present within all sites. There was no substantial reduction in the cover and height of vegetation surrounding the assessment and no degradation or loss of habitat was observed.

10) Watercourse Authority

A Watercourse Authority for the Ringarooma River under Section 123B of the *Water Management Act 1999* was granted to Tasmanian Irrigation on 11 July 2014.

Tasmanian Irrigation operated the Upper Ringarooma Irrigation District in accordance with the Watercourse Authority. Daily release rates did not exceed 47.5 ML/day. The total allocation released into the Ringarooma River for irrigation purposes was 56.12 ML which is below the permissible annual release volume of 5,700 ML.

In accordance with the Watercourse Authority transmission losses were applied to water delivered via the Ringarooma River. The volumes of water conveyed and the transmission losses applied to these orders is outlined in the table below.

Conveyance Account - Water Supply 2016/17

Opening Date	Order Number	Volume ordered (ML)	Volume Taken (ML) ¹	Volume of water conveyed (ML)	Volume of water provided to cover losses	Volume of losses as determined by CMP
14 Dec 16	S.Nailer IRPC-UR-016	8.0ML	7.84ML	8.0ML	0.16ML	2%
16 Dec 16	S.Nailer IRPC-UR-016	3.72ML	3.65ML	3.72ML	0.07ML	2%
23 Jan 17	S.Nailer IRPC-UR-016	5.81ML	5.64ML	5.81ML	0.17ML	2%
31 Jan 17	S.Nailer IRPC-UR-016	7.47ML	7.32ML	7.47ML	0.15ML	2%
11 Feb 17	S.Nailer IRPC-UR-016	6.64ML	6.51ML	6.64ML	0.13ML	2%
20 Feb 17	S.Nailer IRPC-UR-016	21.16ML	20.74ML	21.16ML	0.42ML	2%
19 Mar 17	S.Nailer IRPC-UR-016	3.32ML	3.25ML	3.32ML	0.07ML	2%
TOTAL		56.12	54.95ML	56.12ML	1.17ML	

11) Farm Water Access Plans:

- a) During the 2016/17 reporting period, 41 Farm Water Access Plans (Farm WAPs) were in place for the Upper Ringarooma Irrigation District.
- b) All irrigators that received Tasmanian Irrigation water within the Upper Ringarooma Irrigation District had a Farm WAP in place before the water was applied. TI water was applied to 21 properties across the Upper Ringarooma Irrigation District during 2016/17 irrigation season.
- c) In accordance with the irrigation district approval conditions, Tasmanian Irrigation completed three (3) Farm WAP audits for the 2016/17 irrigation season. No incidents of non-compliance were identified during the audits.
- d) The audits conducted were second party external audits that were completed by suitably qualified person(s) approved by the Minister.

12) Other associated or pending issues:

There are no pending issues.

PART D – FINANCIAL STATEMENTS

1. Financial Statement for the period 01 July 2016 to 30 June 2017:

Revenue	\$ 284,027
Expenditure	\$ 256,018
Operating Surplus/(Deficit)	\$ 28,009

Tasmanian Irrigation schemes are run under a cost recovery model. Budgets are developed on a rolling 4-year basis with pricing paths developed to ensure financial sustainability. There are no cross subsidies between schemes and all funds are quarantined within the scheme.

2. Auditors report

The Auditor's Report for the period 01 July 2016 to 30 June 2017 of Tasmanian Irrigation's irrigation schemes is provided with this report.



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