

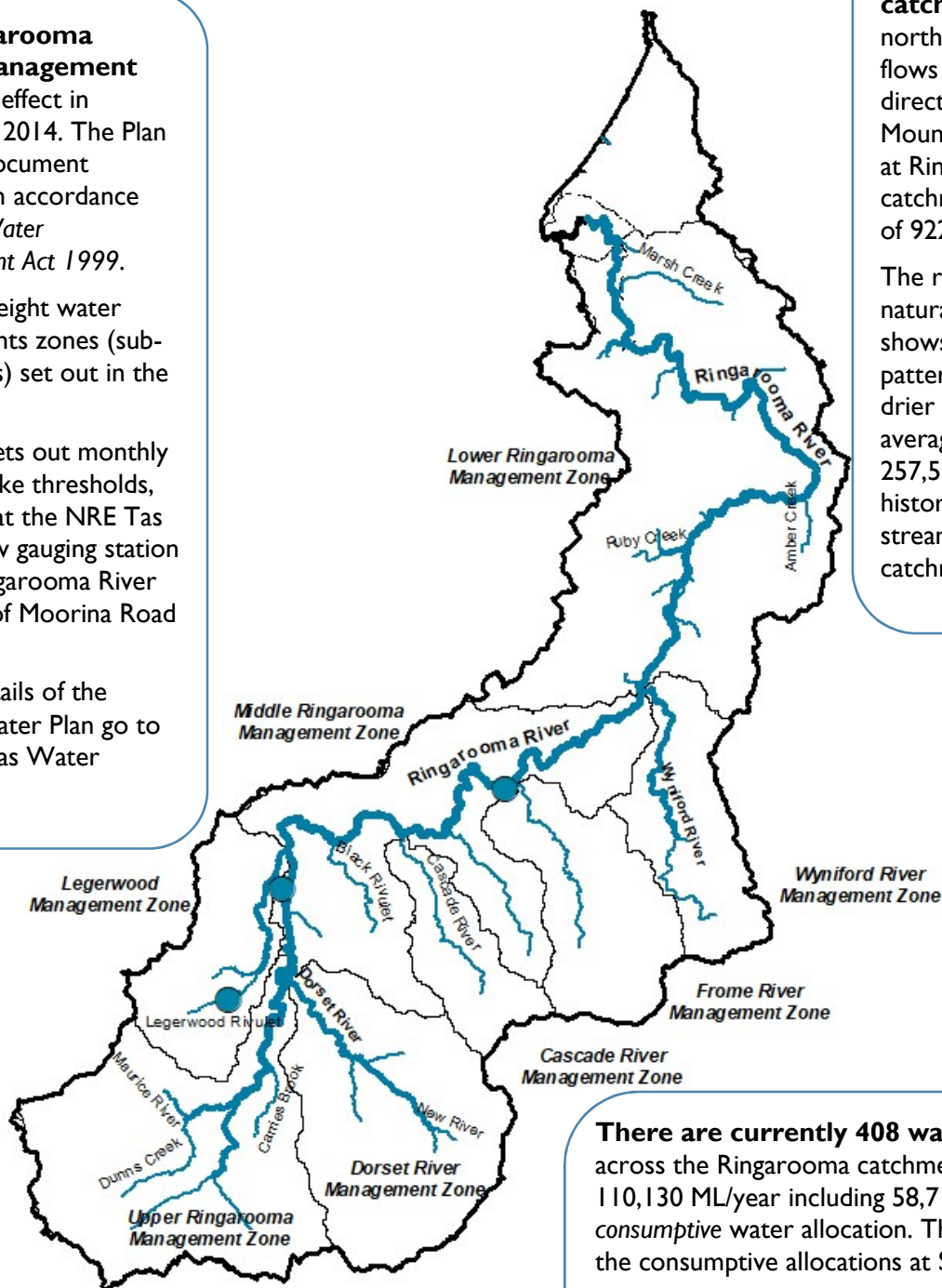
RINGAROOMA RIVER CATCHMENT ANNUAL REPORT 2023/24

The Ringarooma Water Management Plan took effect in December 2014. The Plan is a legal document prepared in accordance with the *Water Management Act 1999*.

There are eight water managements zones (sub-catchments) set out in the Plan.

The Plan sets out monthly cease to take thresholds, measured at the NRE Tas stream flow gauging station on the Ringarooma River upstream of Moorina Road bridge.

For full details of the current Water Plan go to the NRE Tas Water website.



The Ringarooma River catchment is located in the north-east of Tasmania and flows in a north-easterly direction from Ben Nevis and Mount Maurice to Bass Strait at Ringarooma Bay. The catchment covers a total area of 922 km².

The river system has a largely natural flow regime that shows a strong seasonal flow pattern (wetter in winter and drier in summer). The average annual water yield is 257,561 ML/year based on the historical flows at the lowest stream flow gauge in the catchment.

There are currently 408 water allocations across the Ringarooma catchment with a volume of 110,130 ML/year including 58,716 ML/year of *non-consumptive* water allocation. The table below details the consumptive allocations at Surety's 5 and 6.

CONSUMPTIVE WATER ALLOCATION

Surety Level	Summer Vol.(ML)	Winter Vol. (ML)	Overall Vol. (ML)
S 5	8,125	29,075	37,200
S 6	10,714	3,178	13,892
Total	18,839	32,253	51,092

CATCHMENT LAND USE

Approximately 26% of the catchment is under production native forests and plantation forestry. A further 18% is used for agricultural purposes with the remaining area supporting a diversity of land uses including mining, urban areas and conservation land. The catchment includes the townships of Branxholm, Derby, Gladstone and Ringarooma. The land use layer was last updated in 2019.

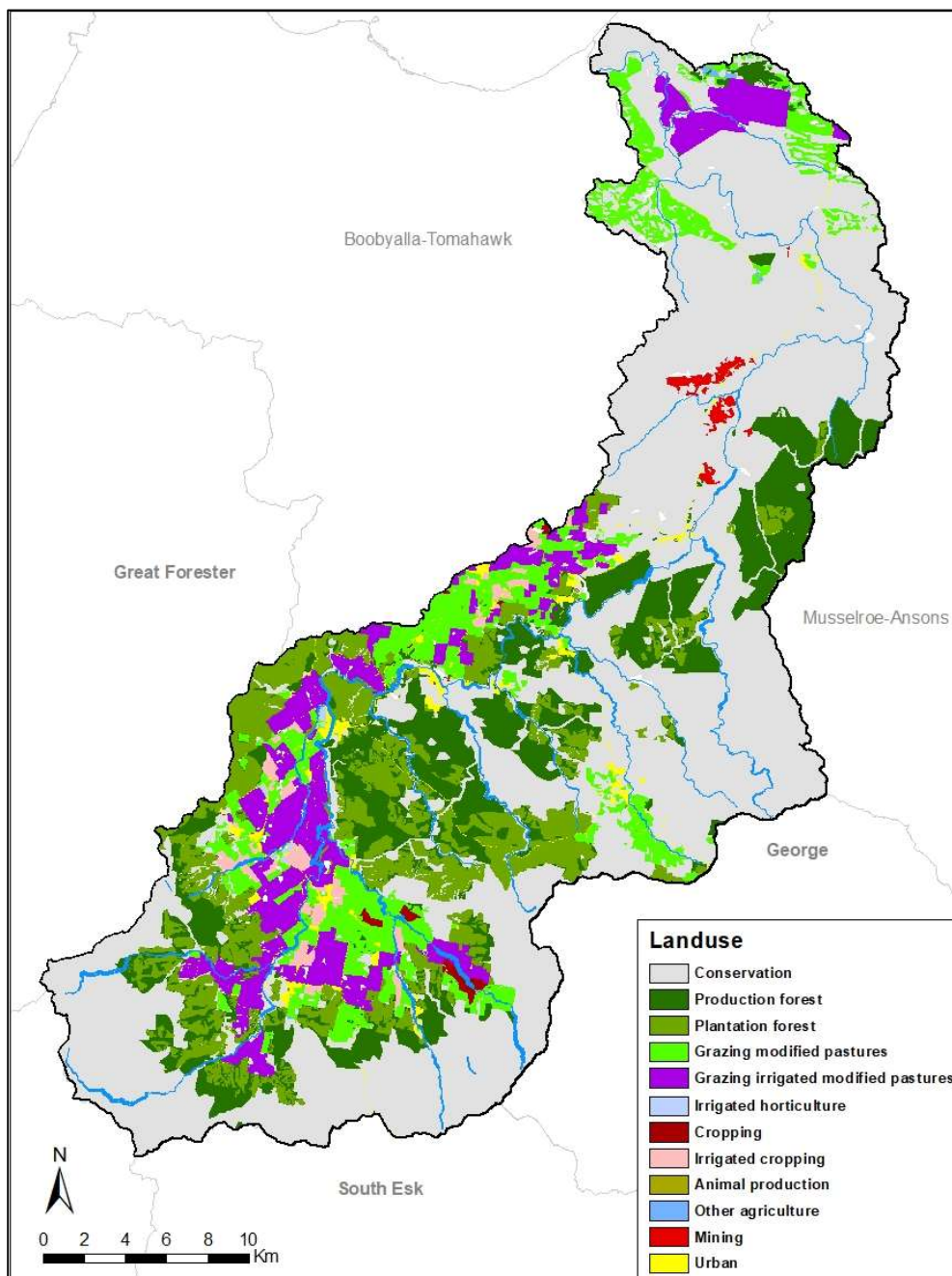


Figure 1. Ringarooma River catchment land use

For further information contact your local Regional Water Management Officer at the Department of Natural Resources and Environment Tasmania:
Phone: 1300 368 550
Email: Water.Operations@nre.tas.gov.au
nre.tas.gov.au/water

RIVER HEALTH

Waterbugs (macroinvertebrates) are used globally to monitor the health of rivers as they are sensitive to pressures on river systems (e.g. poor water quality, sedimentation). River health monitoring by NRE Tas focuses on the composition of waterbug communities found on the riverbed; however, other values that are not monitored can also contribute to the health of rivers (e.g. water plants, fish, riverbank vegetation).

NRE Tas has two long-term river health monitoring sites in the Ringarooma River catchment: Ringarooma River at Branxholm (mid-reach) and Dorset River at Ruby Flats Road (lower-reach of this tributary).

Monitoring indicates:

- Historically the mid-reach of the Ringarooma River was in good to excellent condition, with river health scores (O/E scores) equating to bands X and A (above and equivalent to reference condition) (Figure 2). However, between 2007 and 2022 river health became more variable and declined, with most scores falling into band B (significantly impaired). Notably, in 2023 river health improved, with scores rebounding to band A (equivalent to reference condition).
- Dorset River: Since monitoring began in 1997 river health in the lower-reach of the Dorset River has been variable, but typically in good condition, with most river health scores equating to band A (equivalent to reference condition) (Figure 3).

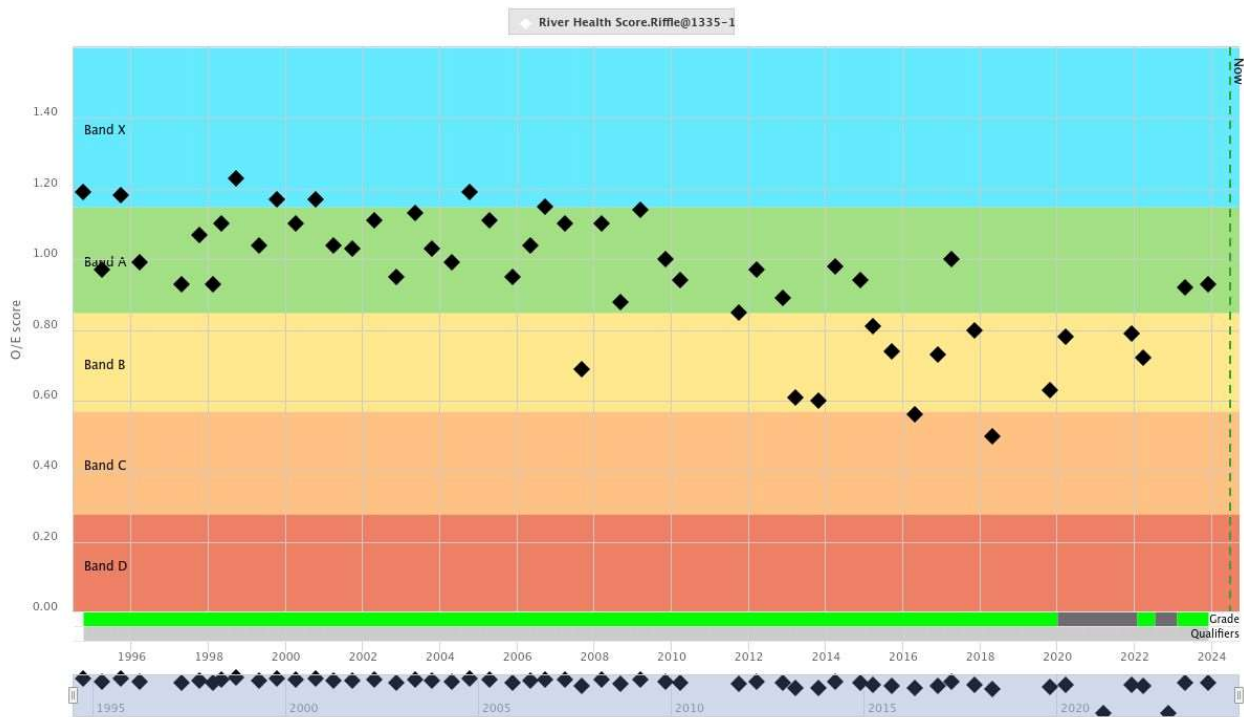


Figure 2. River Health Observed/Expected score at the Ringarooma at Branxholm site, whole of record
Band X = above reference condition, Band A = equivalent to reference condition,
Band B = significantly impaired, Band C = severely impaired and Band D = impoverished.

For further information contact your local **Regional Water Management Officer** at the **Department of Natural Resources and Environment Tasmania**:
Phone: 1300 368 550
Email: Water.Operations@nre.tas.gov.au
nre.tas.gov.au/water

August 2024

HYDROLOGY SUMMARY

The following pages show plots of long-term streamflow (full period of available record), short term flow and rainfall (last 5 water years), and last years flow, rainfall and restriction data, split into winter (May 2023 – November 2023) and summer (December 2023 – April 2024) seasons.

Over the period from May 2023 to April 2024:

- Annual yield at the gauge was slightly below average, however this is inclusive of irrigation scheme releases, so natural flow is likely to have been below average.
- Annual rainfall at the Ringarooma gauge was just below average.
- An expected El Nino state was declared in September which continued until mid-April.
- There were no water restrictions in the catchment.



Full flow record, 1977 - 2024

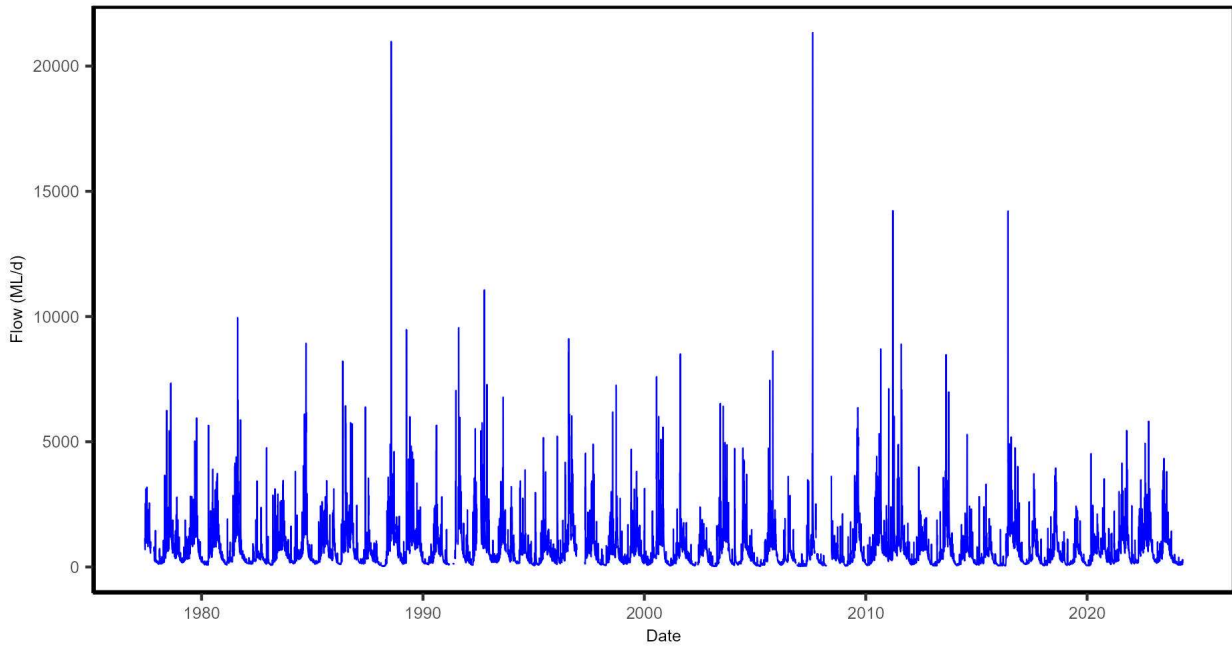


Figure 3. Mean daily flow in the Ringarooma River at the Moorina streamflow gauging station, whole of record.

Full record of yields in water years 1977 - 2023

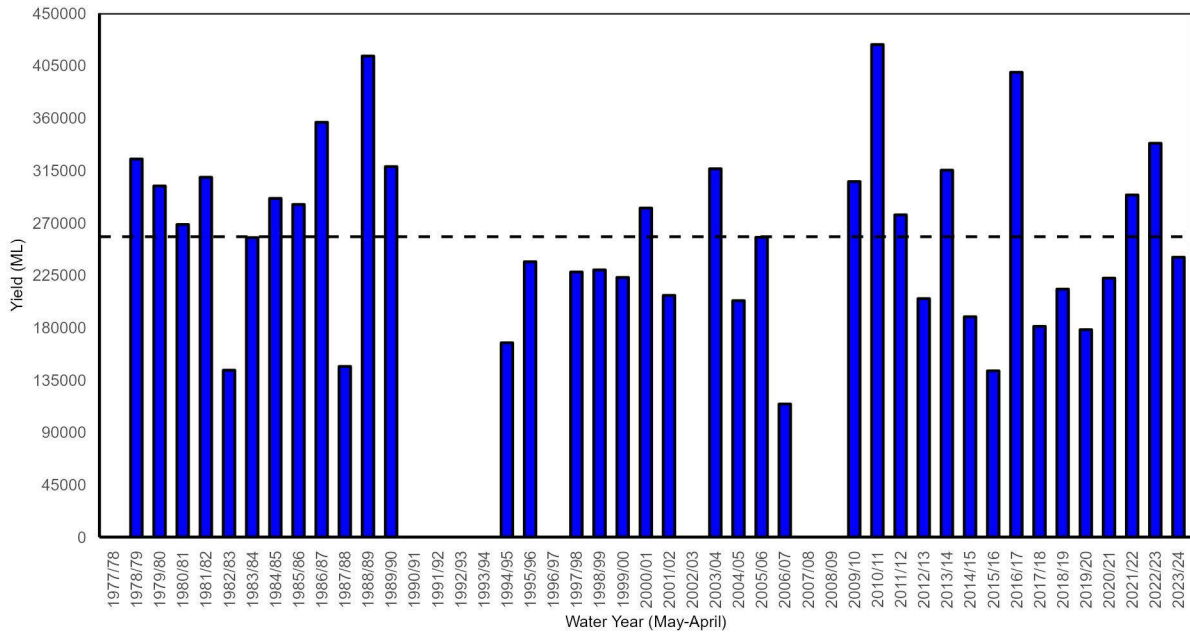


Figure 4. Yields in the Ringarooma River at the Moorina streamflow gauging station. Water years with <95% of the daily flow record available are excluded. The long-term mean yield is shown as the dashed horizontal black line (257,561 ML).

For further information contact your local Regional Water Management Officer at the Department of Natural Resources and Environment Tasmania:
 Phone: 1300 368 550
 Email: Water.Operations@nre.tas.gov.au
nre.tas.gov.au/water

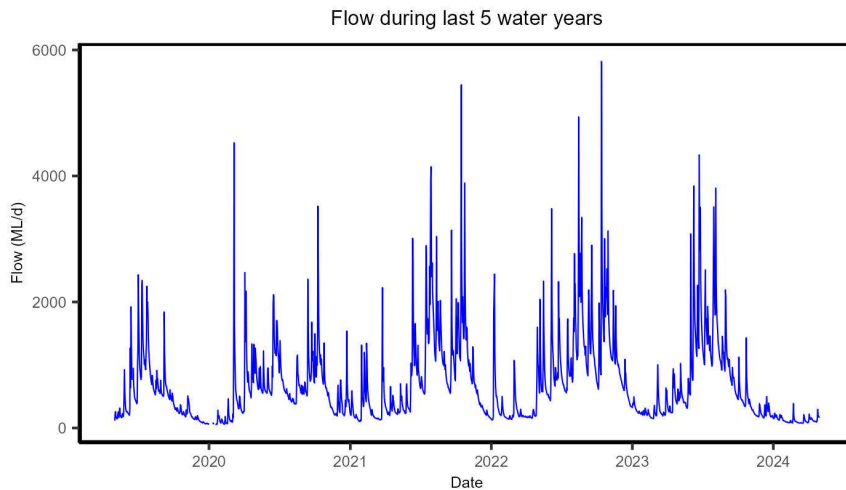


Figure 5. Mean daily flow in the Ringarooma River at the Moorina streamflow gauging station, last five years.

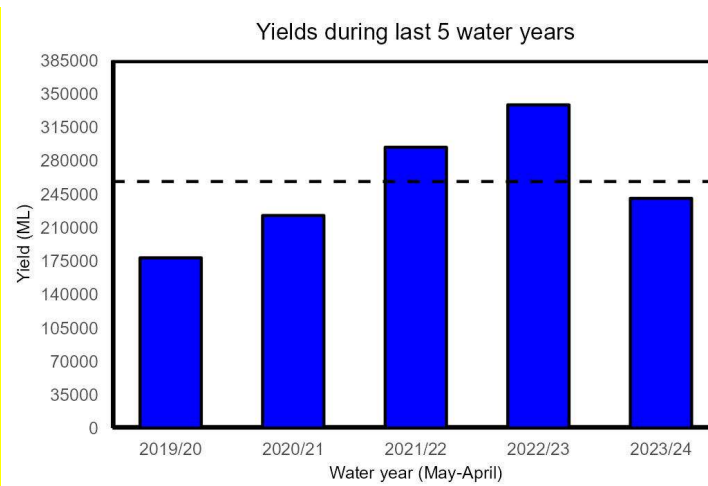


Figure 6. Yields in the Ringarooma River at the Moorina streamflow gauging station for the last five years. The long-term mean yield is shown as the dashed horizontal black line (257,561 ML).

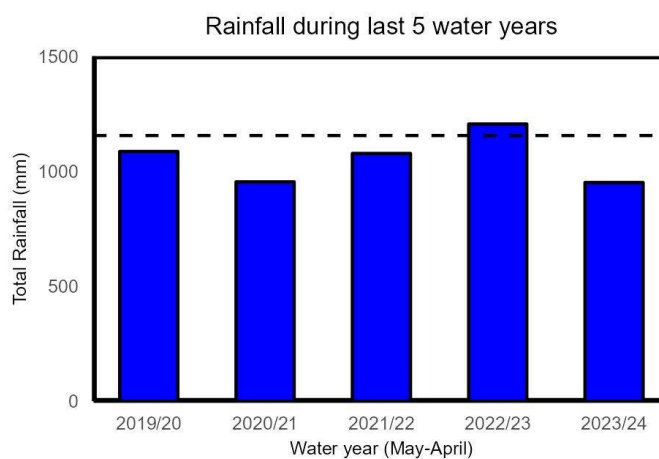


Figure 7. Total rainfall at the Ringarooma BoM weather station during the last five water years. The long-term (1899-2024) mean total rainfall (1,154 mm) is shown as the black horizontal dashed line.

Rainfall, low flows and restriction periods during winter 2023/2024

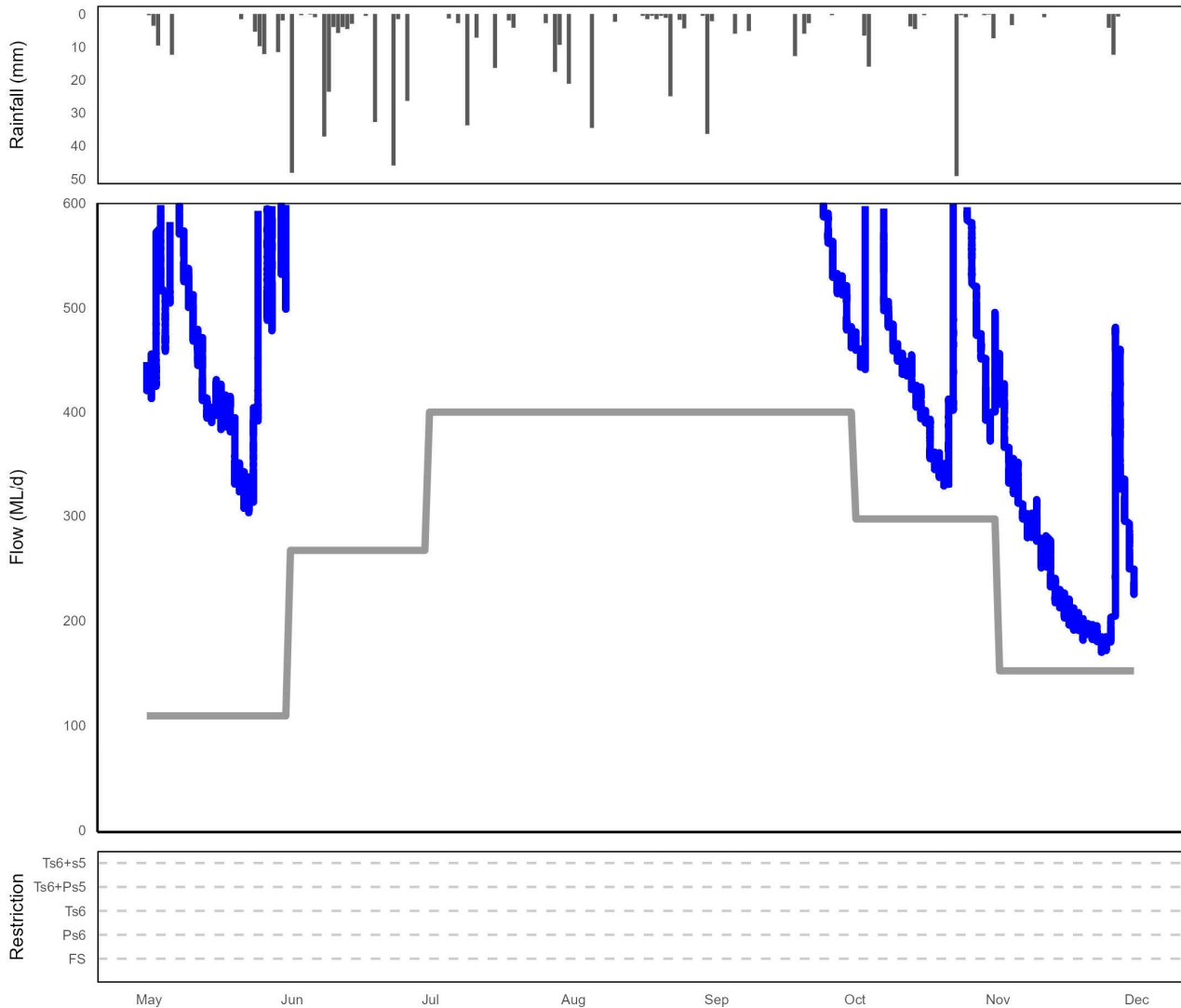


Figure 8. Summary of rainfall, low flows and restrictions in the Ringarooma catchment during winter (May-November) 2023.
 Top plot: total daily rainfall (Ringarooma BoM site).
 Middle plot: instantaneous flow (<600 ML/d) Ringarooma River at the Moorina station (compliance flow site).
 Bottom plot: days when restrictions were in place.

NOTE: Refer to the last page for a 'legend' and description on how to interpret these plots

Table 1. Restriction levels and total days at each level for the winter period (May - November 2023).

Restriction Type	Days at restriction level in 2022/23	Days at restriction level in 2023/24
Flow Sharing	0	0
Partial Surety 6	0	0
Total Surety 6	0	0
Total Surety 6 + Partial Surety 5	0	0
Total Surety 6 + Total Surety 5	0	0

Rainfall, low flows and restriction periods during summer 2023/2024

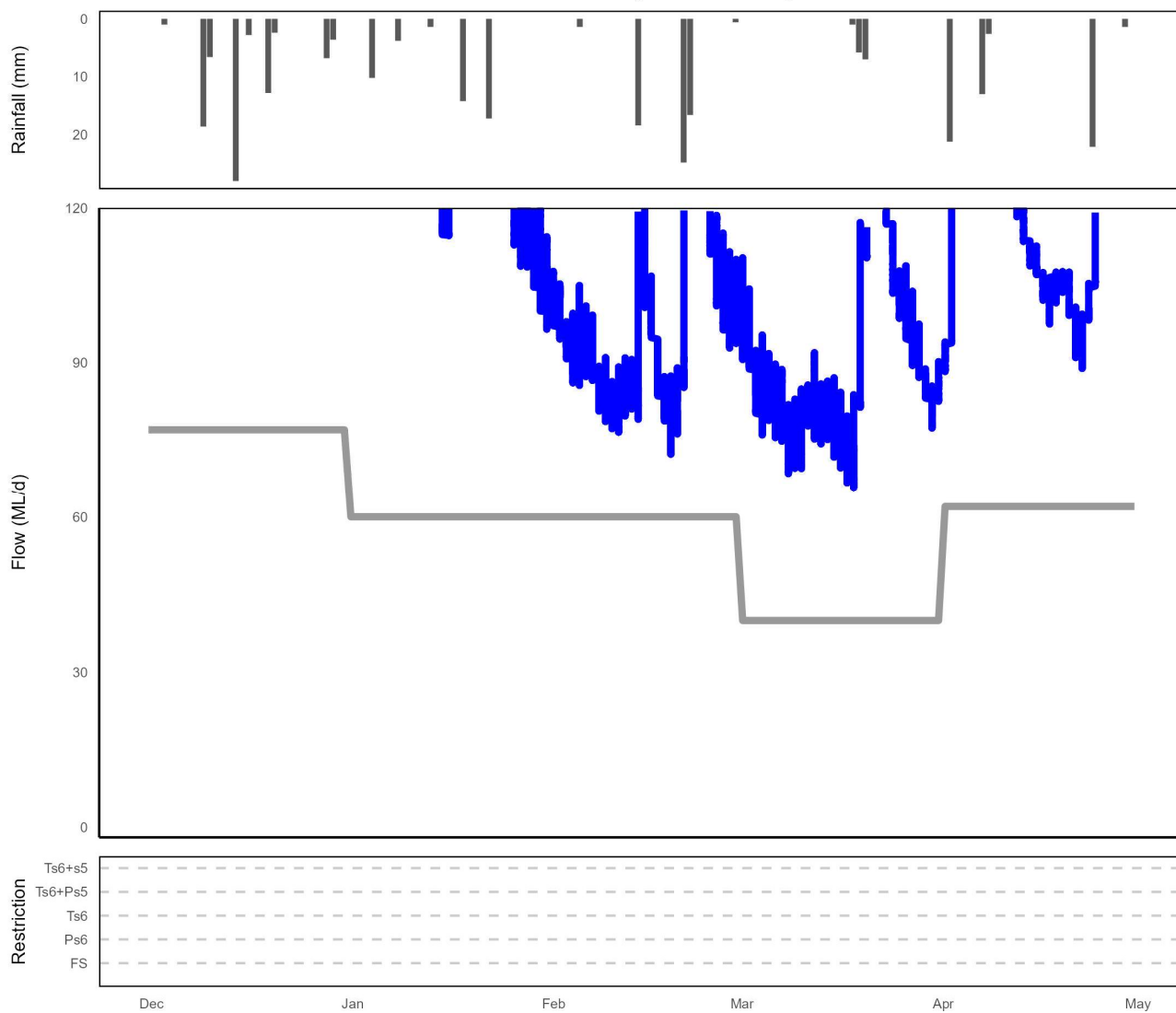


Figure 9. Summary of rainfall, low flows and restrictions in the Ringarooma catchment during summer 2023/24 (Dec-April).
 Top plot: total daily rainfall (Ringarooma BoM site).
 Middle plot: instantaneous flow (<120 ML/d) Ringarooma River at the Moorina station (compliance flow site).
 Bottom plot: days when restrictions were in place.

NOTE: Refer to the last page for a 'legend' and description on how to interpret these plots

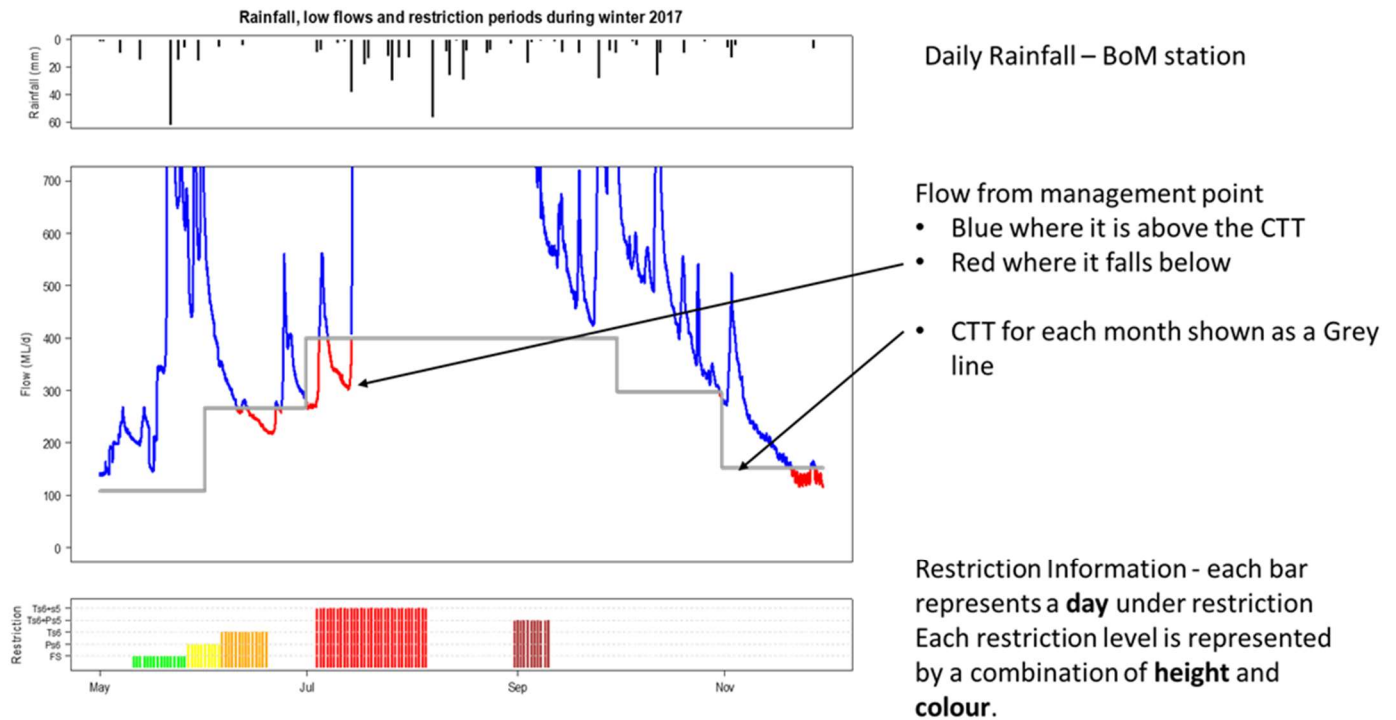
Table 2. Restriction levels and total days at each level for the summer period (Dec 2023 – April 2024).

Restriction Type	Days at restriction level in 2022/23	Days at restriction level in 2023/24
Flow Sharing	0	0
Partial Surety 6	0	0
Total Surety 6	0	0
Total Surety 6 + Partial Surety 5	0	0
Total Surety 6 + Total Surety 5	0	0

EXAMPLE ONLY

Rainfall, flow and restriction plot legend

NOTE: This is a hypothetical example to assist in interpreting the plots in the main body of this document.



Flow Restriction definitions:

FS = flow sharing (only some catchments), shown in GREEN

Ps6 = partial surety 6 ban, shown in YELLOW

Ts6 = total surety 6 ban, shown in ORANGE

Ts6+Ps5 = total surety 6 and partial surety 5 ban, shown in BROWN

Ts6+s5 = total surety 5 and 6 ban, shown in RED

EXAMPLE ONLY

For further information contact your local Regional Water Management Officer
at the Department of Natural Resources and Environment Tasmania:

Phone: 1300 368 550

Email: Water.Operations@nre.tas.gov.au

nre.tas.gov.au/water

August 2024