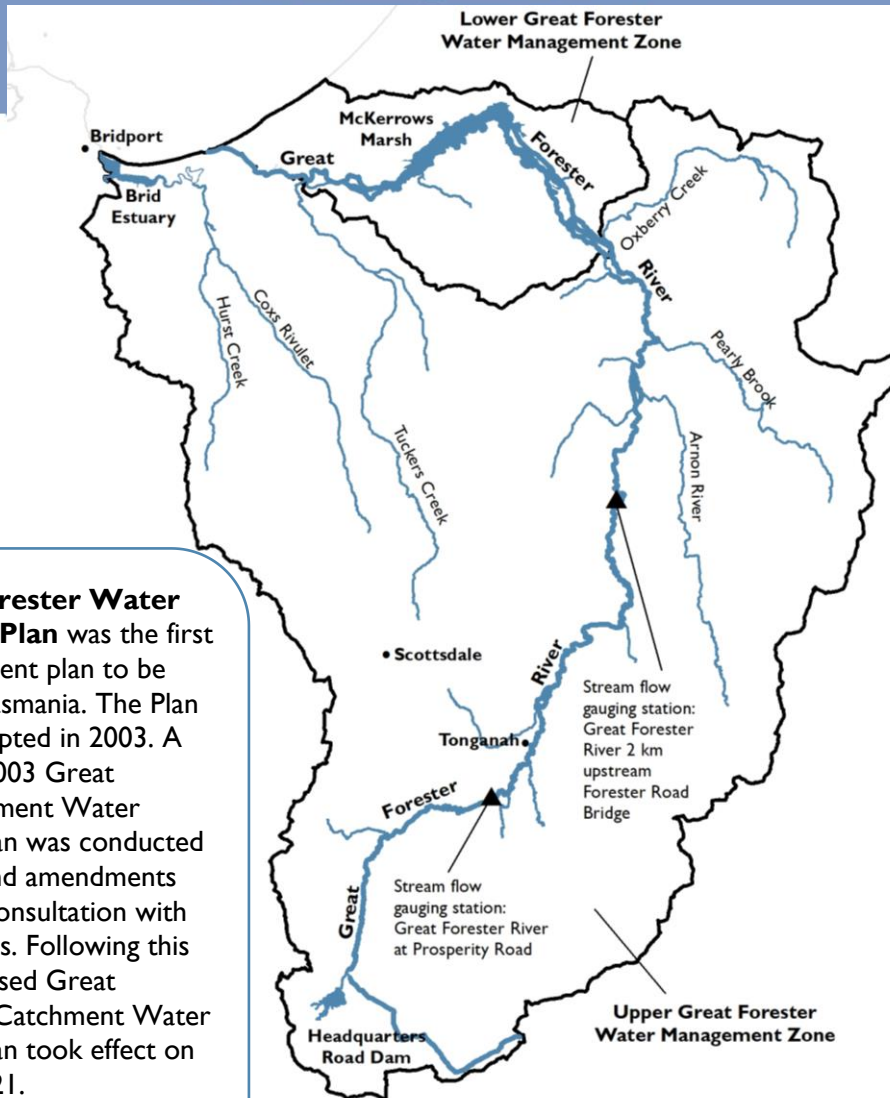


GREAT FORESTER RIVER CATCHMENT ANNUAL REPORT 2022/23



The Great Forester River catchment is located in the north-east of Tasmania and flows 95 km in a northerly direction from Mount Maurice to Bass Strait near Bridport. The catchment covers a total area of 626 km².

The river system is unregulated with 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 76,300 ML/year based on the historical flows at the lowest stream flow gauge in the catchment.

The Great Forester Water Management Plan was the first water management plan to be developed in Tasmania. The Plan was initially adopted in 2003. A review of the 2003 Great Forester Catchment Water Management Plan was conducted in 2018-2019 and amendments were made in consultation with key stakeholders. Following this review, the revised Great Forester River Catchment Water Management Plan took effect on 27 October 2021.

Of note, the agreed managed minimum flow for the summer period remains the same as the 2003 plan at 30 ML/day, measured at the NRE Tas stream flow gauging station on the Great Forester River 2km upstream of the Forester Road Bridge. The purpose of the Plan is to provide a framework for managing the water resources of the Great Forester River Catchment and is a legal document in accordance with the objectives of the Water Management Act 1999.

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

There are currently 404 water allocations across the Great Forester catchment with a volume of 42,641 ML/year for both non consumptive and consumptive uses. The table below shows consumptive allocations across Surety's 3-7.

CONSUMPTIVE WATER ALLOCATION

Surety Level	Summer Vol. (ML)	Winter Vol. (ML)	Overall Vol. (ML)
S 3	162	0	162
S 5	2,835	10,018	12,853
S 6	15,267	2,385	17,652
S 7	0	2,220	2,220
Total	18,406	14,749	32,887

CATCHMENT LAND USE

Approximately 35% of the catchment is under production native forests and plantation forestry. A further 25% 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 township of Scottsdale as its major settlement. The land use layer was last updated in 2019.

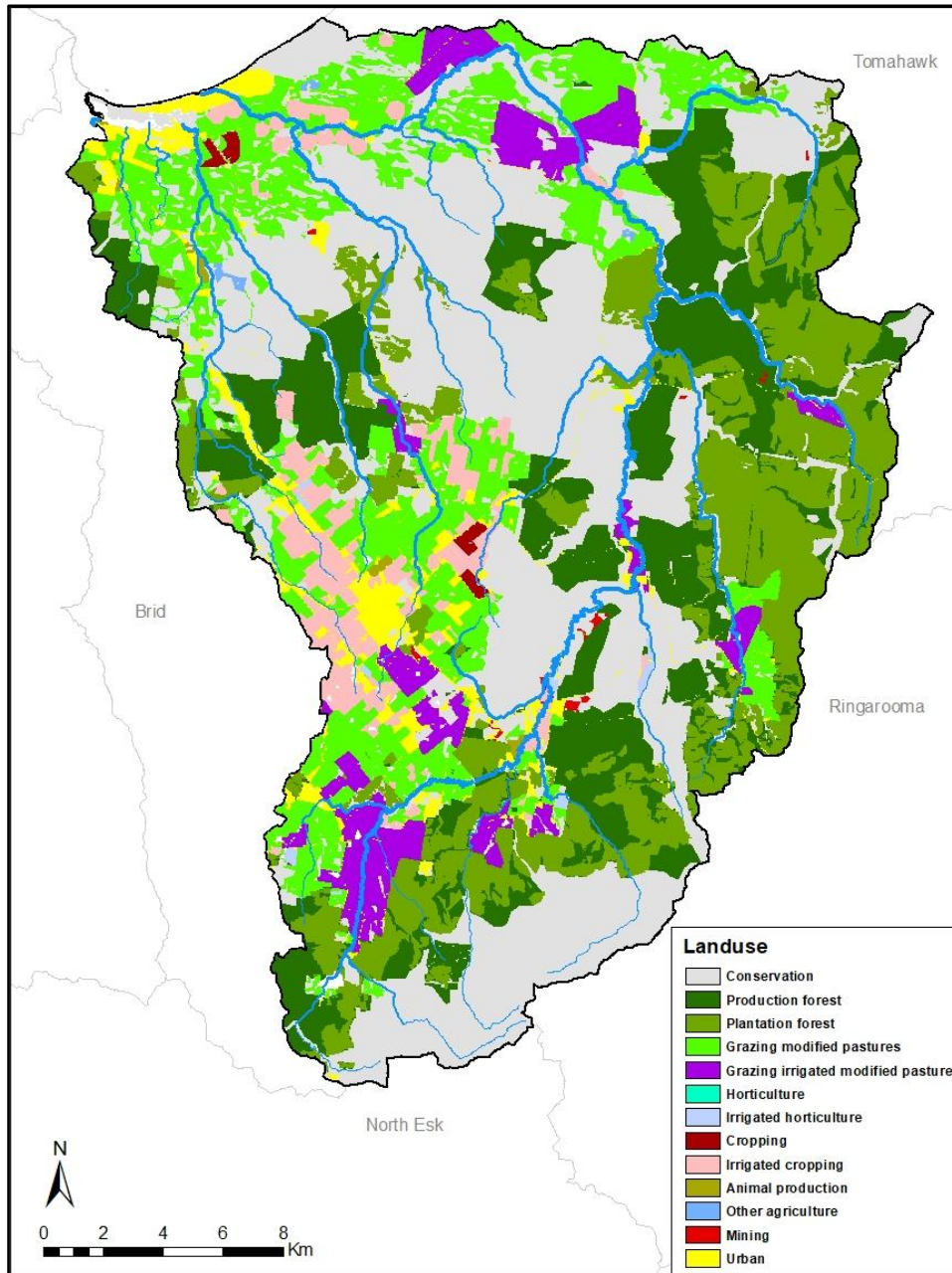


Figure 1. Great Forester River catchment land use

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 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 (macroinvertebrate) communities 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 Great Forester River, with one site at Prosperity Road (upper reach) and one site at Old Waterhouse Road (lower reach). Monitoring in the river since 1995 indicates that historically the upper river was in good condition, but since 2014 it has declined and is in poor condition, with river health scores (O/E scores) equating to band B (significantly impaired) and band C (severely impaired) (Figure 2). The lower river is in moderate to good condition, with river health scores equating to band B (significantly impaired) and band A (equivalent to reference condition) being recorded at this site since 2019.

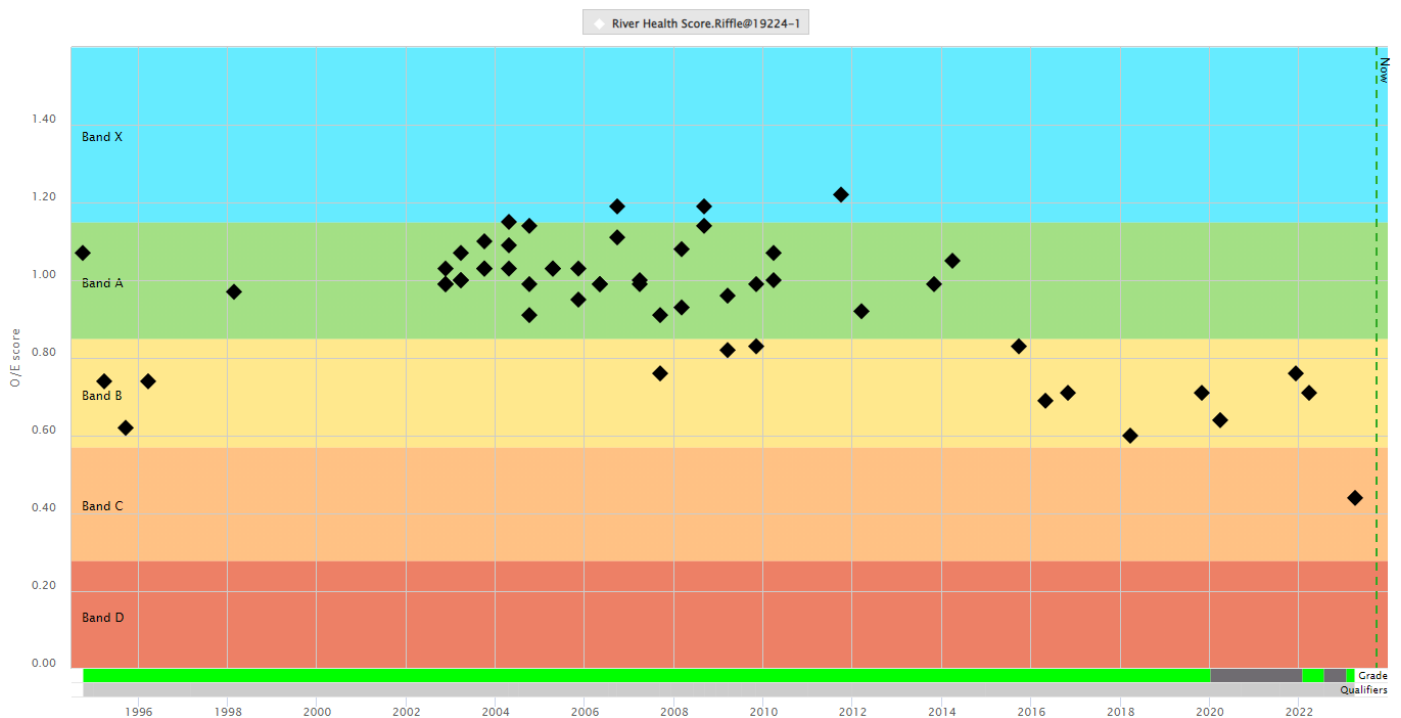


Figure 2. River Health Observed/Expected score at the Great Forester at Prosperity Road site, whole of record.

Band X = above reference condition, Band A = equivalent to reference condition,

Band B = significantly impaired, Band C = severely impaired and Band D = impoverished.

HYDROLOGY SUMMARY

The following pages show plots of long-term streamflow (full period of available record), short term (last 5 water years) streamflow and rainfall, and last years flow, rainfall and restriction data, split into winter (May 2022 –November 2022) and summer (December 2022 – April 2023) seasons.

Over the period from May 2022 to April 2023:

- Annual yield was above the long-term average.
- Annual rainfall was just above average.
- The flood event that occurred on the 14th October 2022 was a comparable magnitude to the highest events over the available record.
- The climate drivers included La Nina and negative IOD conditions during 2022, which eased in early 2023 and shifted to an El Nino watch by March 2023.
- There were no water restrictions in the catchment, with flows well above the restriction thresholds throughout the year.



Full flow record, 1970 - 2023

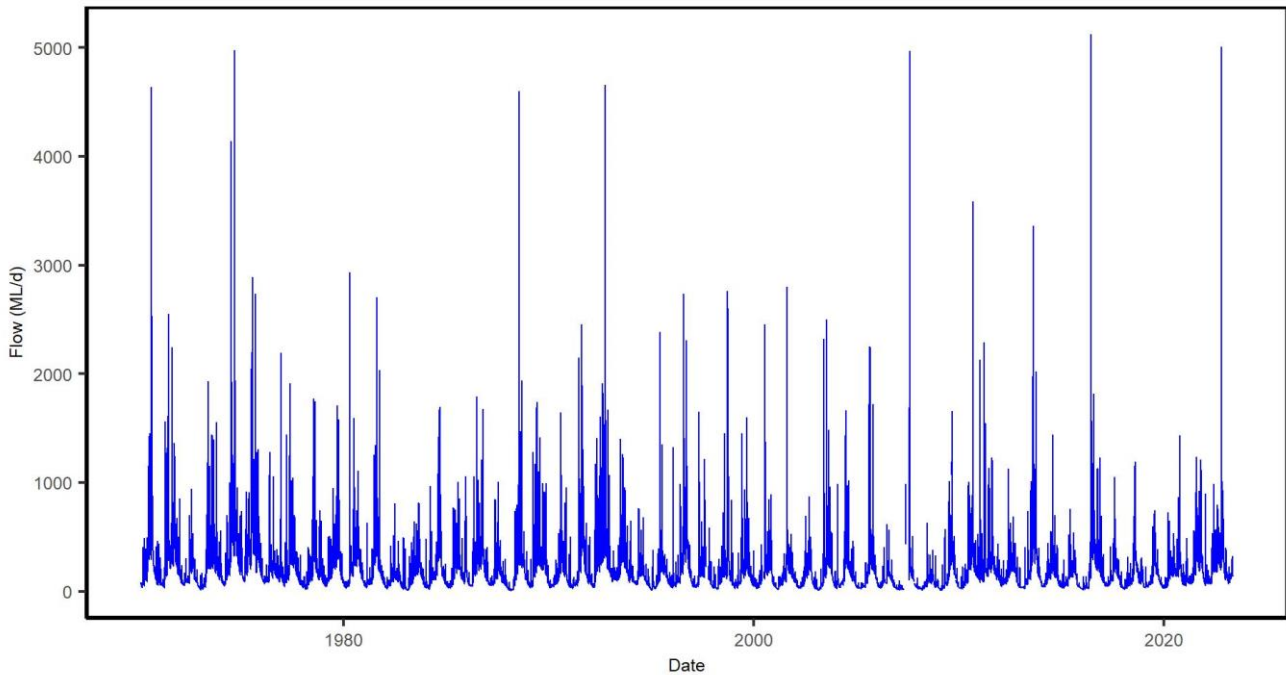


Figure 3. Mean daily flow in the Great Forester River at the Forester Road streamflow gauging station, whole of record.

Full record of yields in water years 1970 - 2022

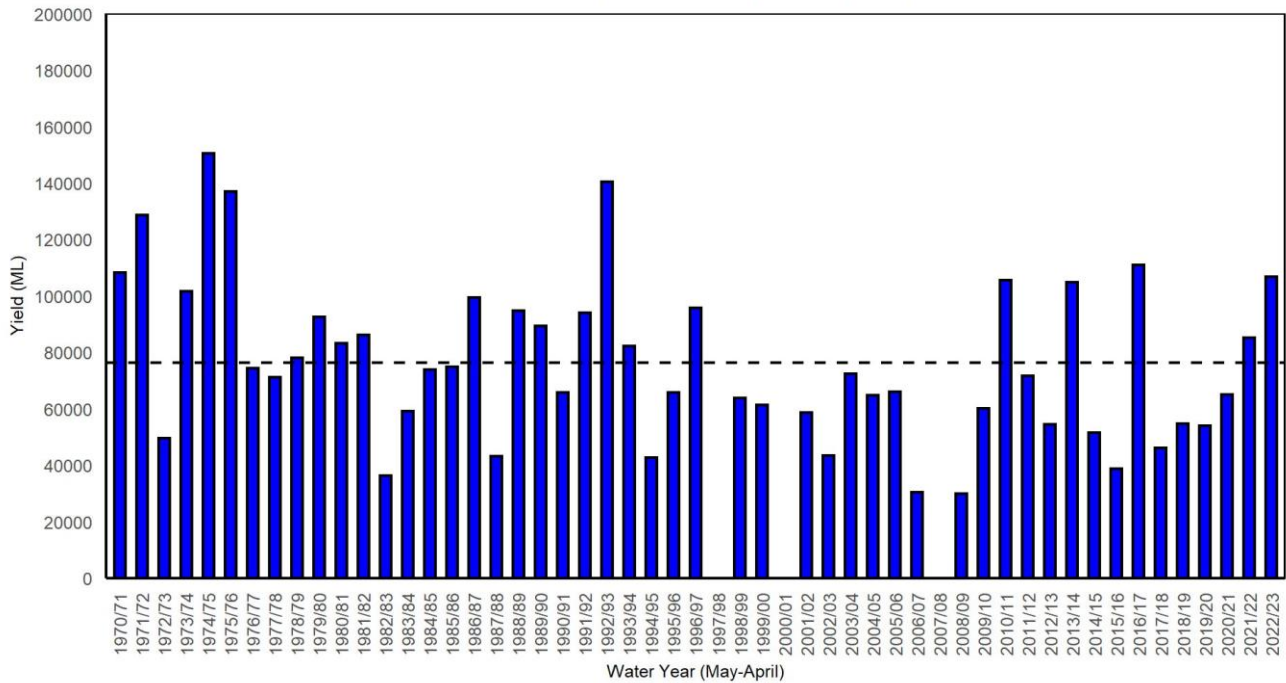


Figure 4. Yields in the Great Forester River at the Forester Road streamflow gauging station. Water years with <95% of the daily flow record available are excluded. The long-term mean yield is shown as the dashed horizontal black line (76,300 ML).

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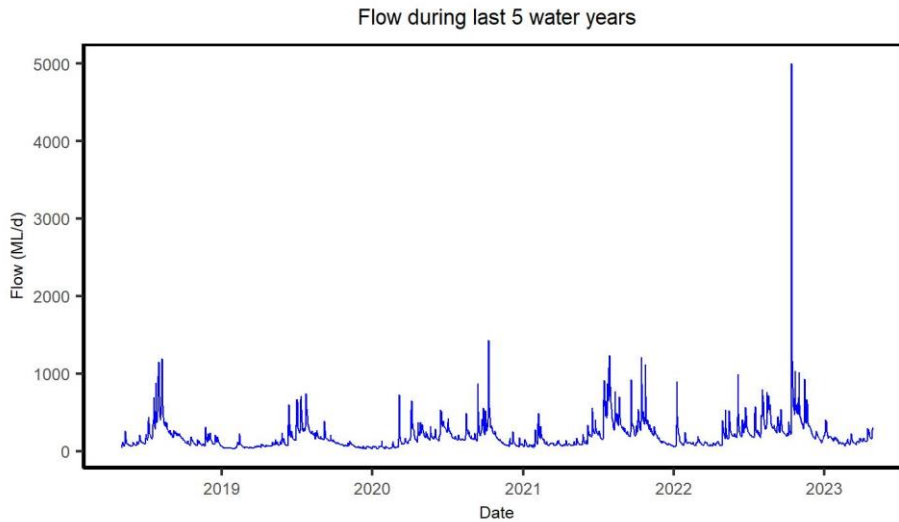


Figure 5. Mean daily flow in the Great Forester River at the Forester Road streamflow gauging station, last five years.

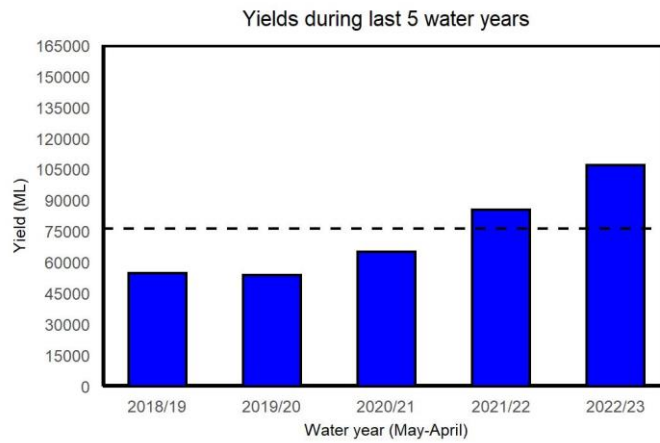


Figure 6. Yields in the Great Forester River at the Forester Road streamflow gauging station for the last five years. The long-term mean yield is shown as the dashed horizontal black line (76,300 ML).

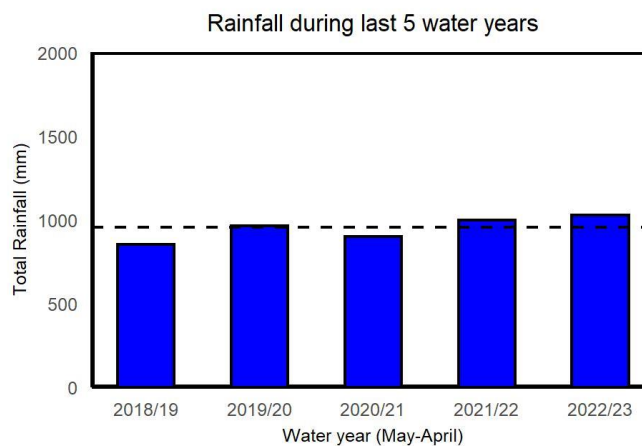


Figure 7. Total rainfall at the Scottsdale BoM weather station during the last five water years. The long-term (1970-2023) mean total rainfall (953 mm) is shown as the black horizontal dashed line.

Rainfall, low flows and restriction periods during winter 2022/2023

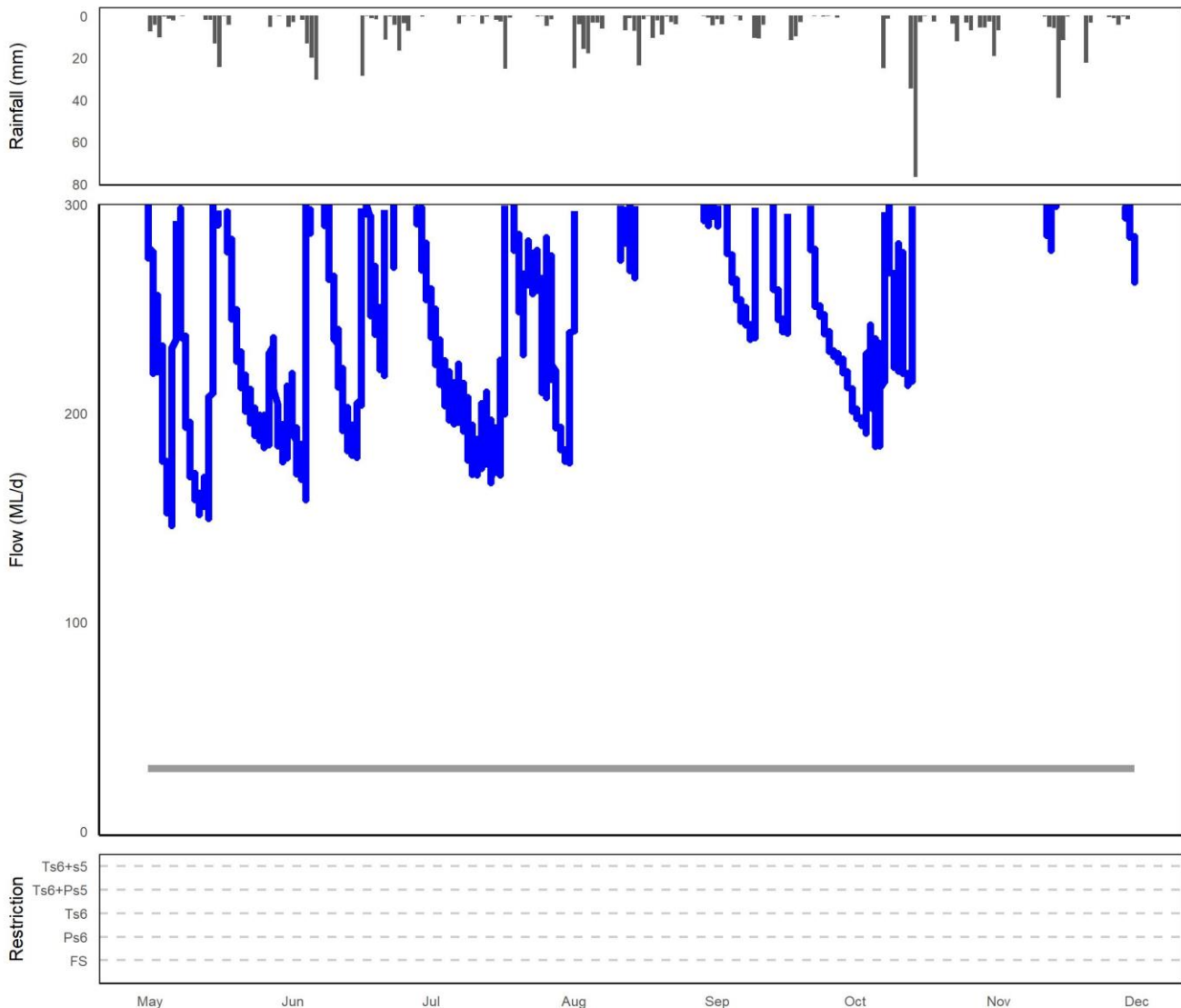


Figure 8. Summary of rainfall, low flows and restrictions in the Great Forester catchment during winter (May-November) 2022.
 Top plot: total daily rainfall (Scottsdale BoM site).
 Middle plot: instantaneous flow (<300 ML/d) Great Forester River at Forester Road station (compliance flow site).
 Bottom plot: days when restrictions were in place.

Table 1. Restriction levels and total days at each level for the winter period (May - November 2022)

Restriction Type	Days at restriction level in 2021/22	Days at restriction level in 2022/23
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 2022/2023

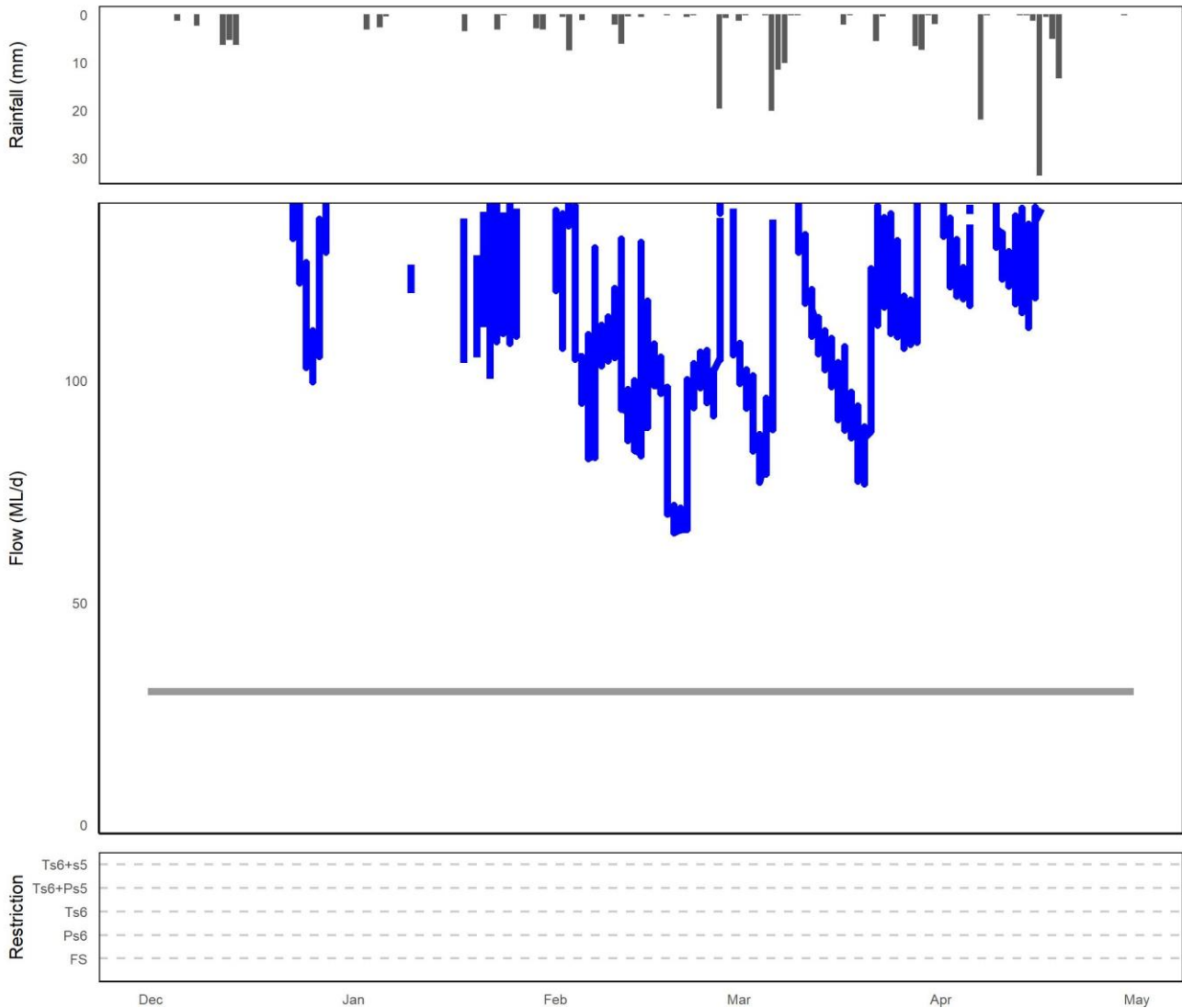


Figure 9. Summary of rainfall, low flows and restrictions in the Great Forester catchment during summer 2022/23 (Dec-April).
 Top plot: total daily rainfall (Scottsdale BoM site).
 Middle plot: instantaneous flow (<120 ML/d) Great Forester River at Forester Road station (compliance flow site).
 Bottom plot: days when restrictions were in place.

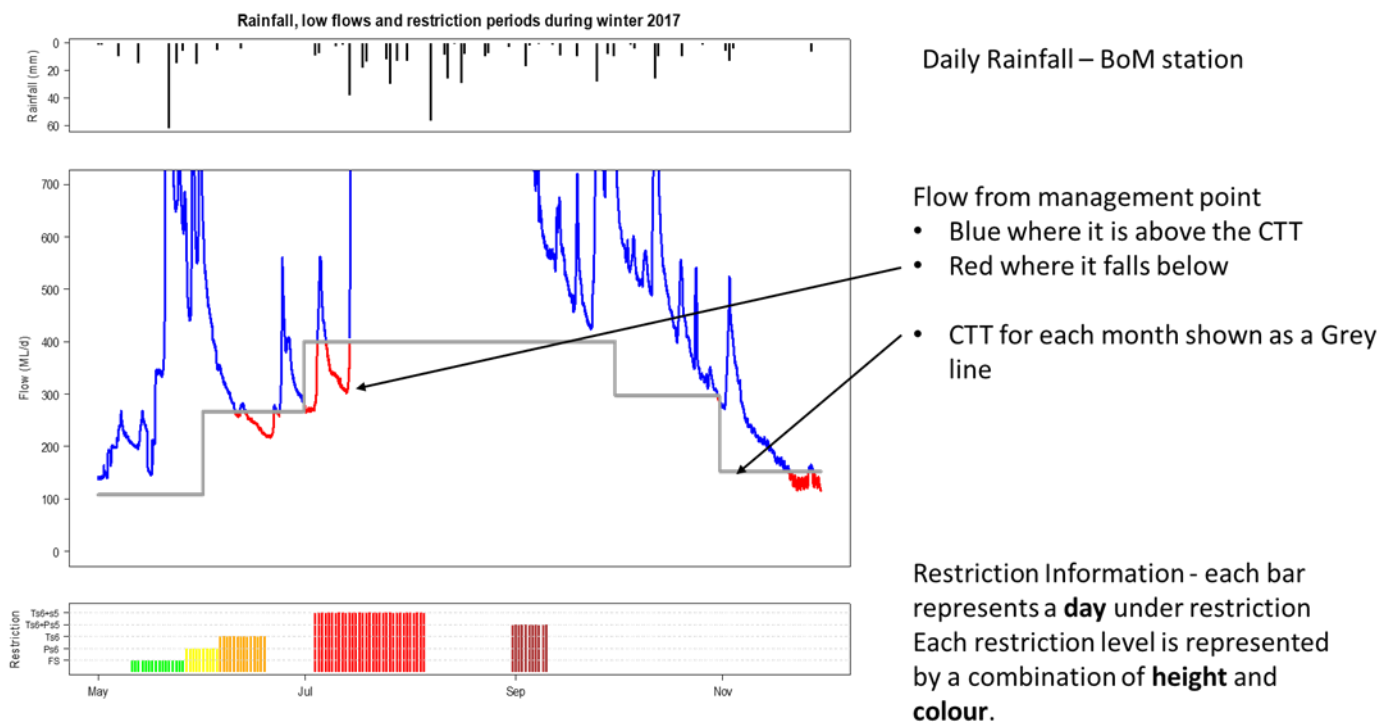
Table 2. Restriction levels and total days at each level for the summer period (Dec 2022 – April 2023).

Restriction Type	Days at restriction level in 2021/22	Days at restriction level in 2022/23
Flow Sharing	0	0
Partial Surety 6	0	0
Total Surety 6	0	0
Total Surety 6 + Partial Surety 5	4	0
Total Surety 6 + Total Surety 5	8	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

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October 2023