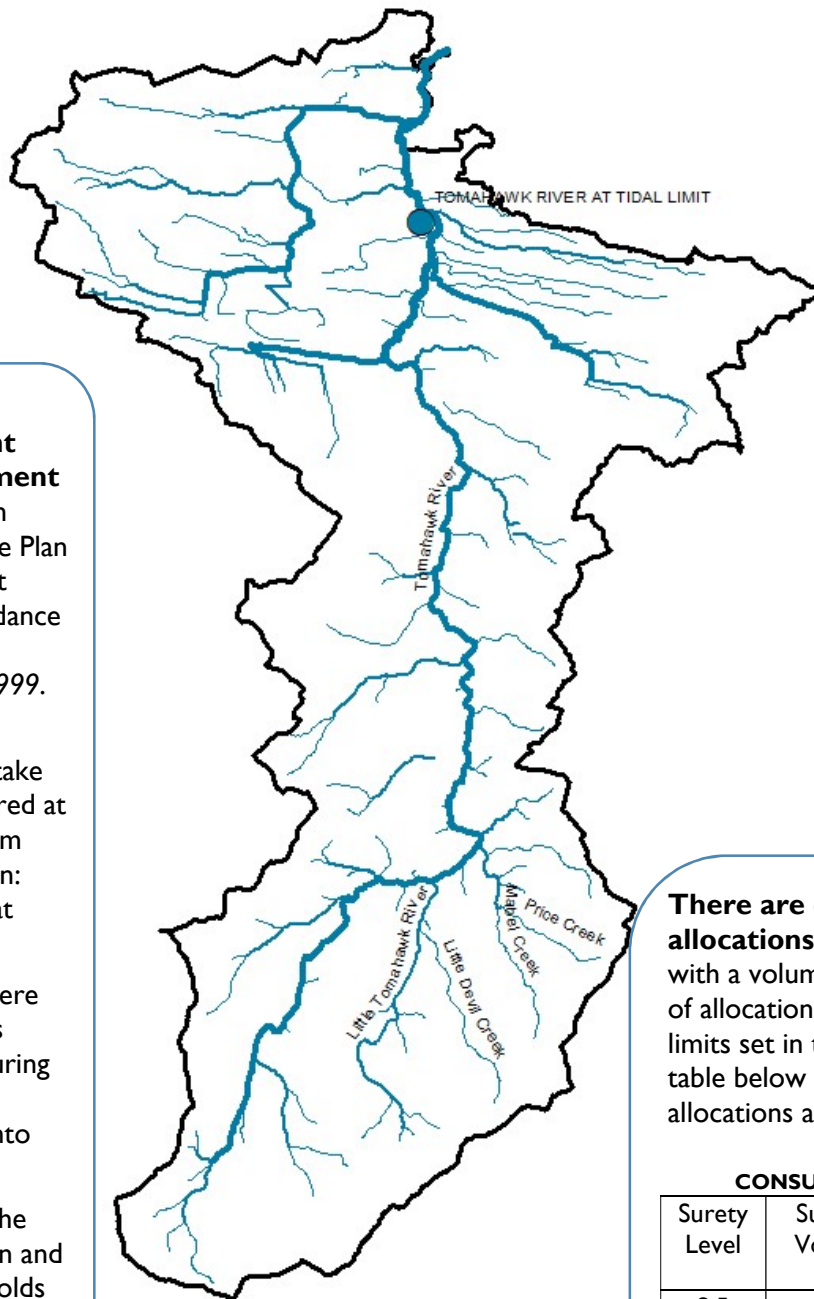


TOMAHAWK RIVER CATCHMENT ANNUAL REPORT 2023/24



The Tomahawk River Catchment Water Management Plan took effect in October 2012. The Plan is a legal document prepared in accordance with the *Water Management Act 1999*.

The Plan set out monthly cease to take thresholds, measured at the NRE Tas stream flow gauging station: Tomahawk River at Tidal Limit.

CTT thresholds were reviewed to assess access to water during winter and revised thresholds came into effect in 2017.

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

The Tomahawk River catchment is located in the north-east of Tasmania and flows north approximately 29 km from Mount Horror to Ringarooma Bay. The catchment covers a total area of 170 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 23,123 ML/year based on the historical flows at the Tomahawk upstream Tidal Limit stream flow gauge.

There are currently 13 water allocations across the Tomahawk catchment with a volume of 5,133 ML/year. The volume of allocation in the catchment has reached the limits set in the Water Management Plan. 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	134	3,564	3,698
S 6	0	1,435	1,435
Total	134	4,999	5,133

CATCHMENT LAND USE

Approximately 28% of the catchment is under production native forests and plantation forestry. A further 36% is used for agricultural purposes, with the remaining area supporting a diversity of land uses including urban areas and conservation land. The town of Tomahawk sits at the outlet of the catchment. The land use layer was last updated in 2019.

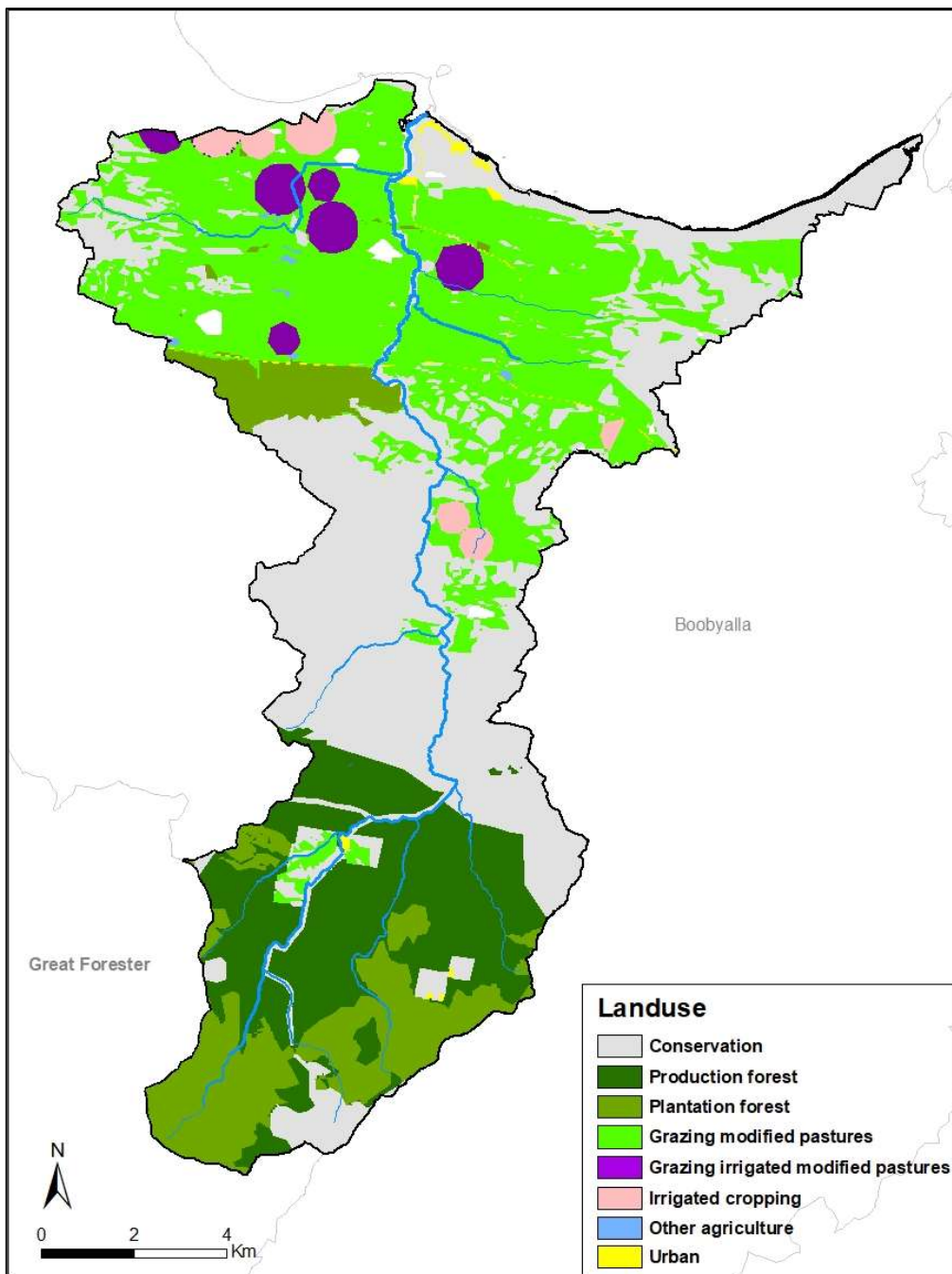


Figure 1. Tomahawk River catchment land use

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

August 2024

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).

Since 2018, river health has been monitored in the lower Tomahawk River immediately upstream of the river’s estuary. The results indicate that the lower-reach of the river is in good to excellent condition, with health scores (O/E scores) equating to bands A and X (equivalent to and above reference condition).

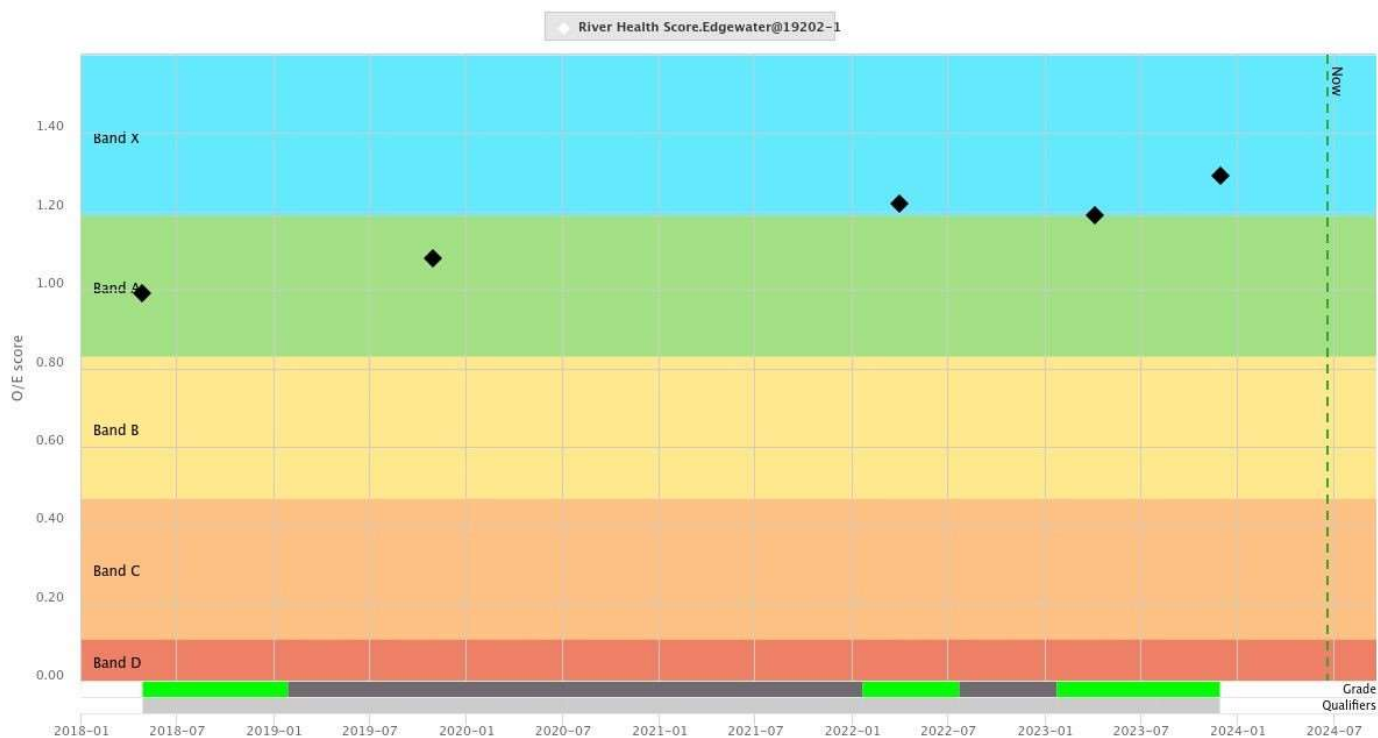


Figure 2. River Health Observed/Expected score at the Tomahawk River upstream Tidal Limit site, whole of record.

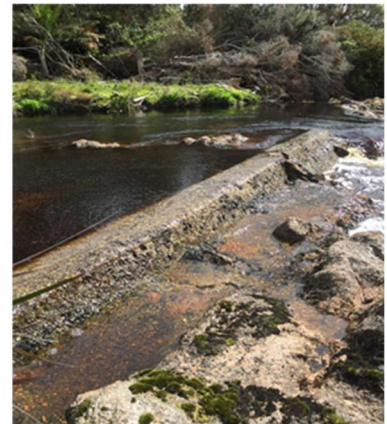
Band X = above reference condition, Band A = equal to reference condition,
 Band B = significantly impacted, Band C = severely impacted and Band D = impoverished

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 was well below the long-term average.
- Annual rainfall at the Bureau's (BoM) Tomahawk at Carisbrooke gauge was well below average.
- An expected El Nino state was declared in September which continued until mid-April.
- A high number of days were under water restrictions in the catchment over both winter and summer.



Full flow record, 1968 - 2024

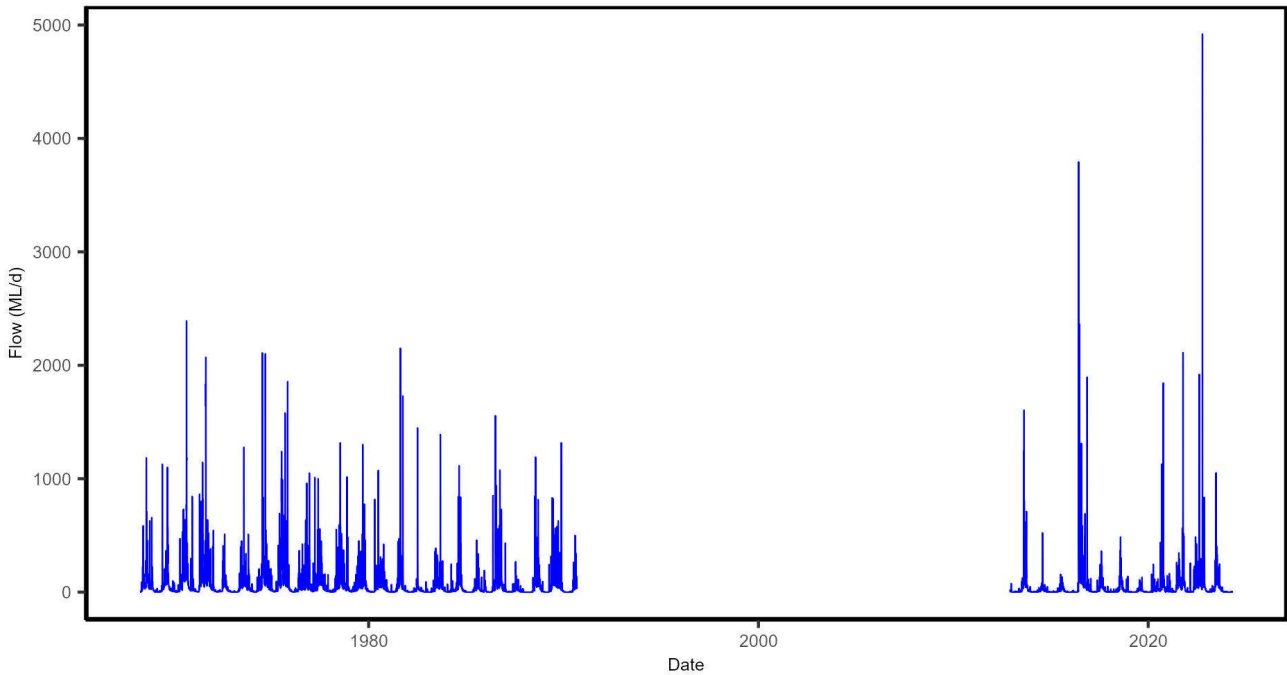


Figure 3. Mean daily flow at the Tomahawk River at Tidal Limit streamflow gauging station, whole of record.

Full record of yields in water years 1968 - 2023

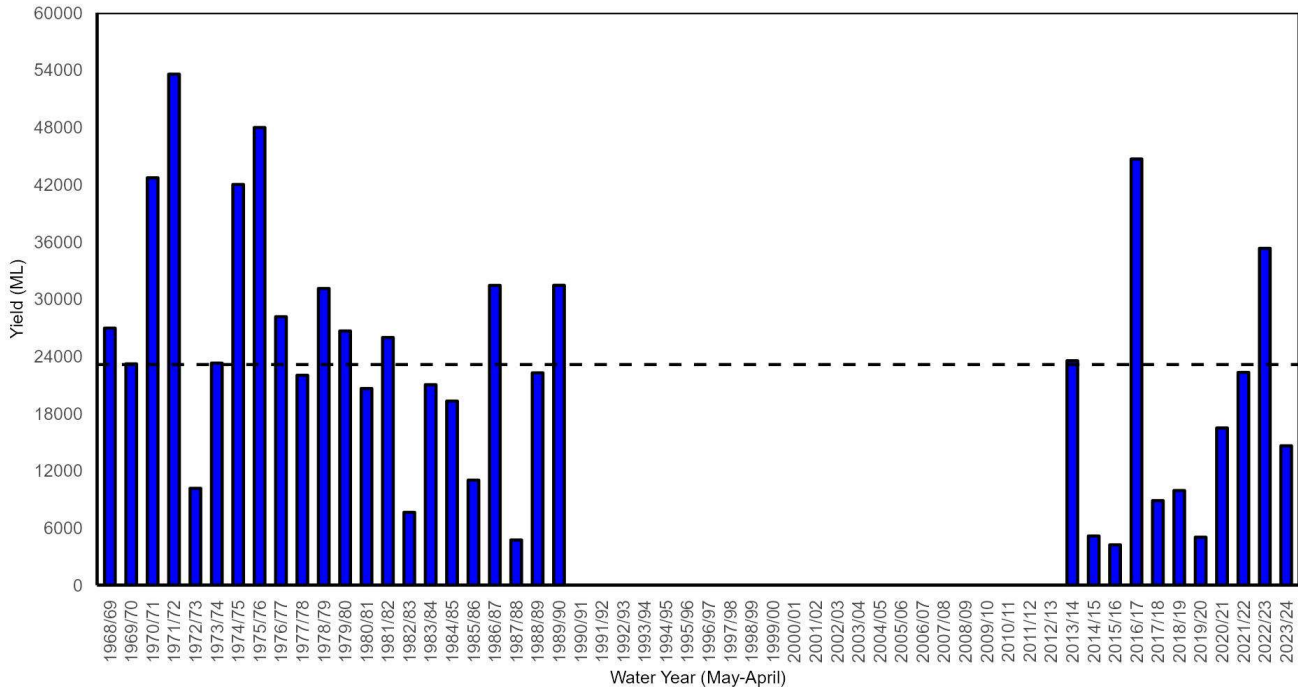


Figure 4. Yields in the Tomahawk River at the Tidal Limit streamflow gauging station. Water years with <95% of the daily flow record available are excluded. The long-term mean yield is shown as the dashed horizontal black line (23,123 ML).

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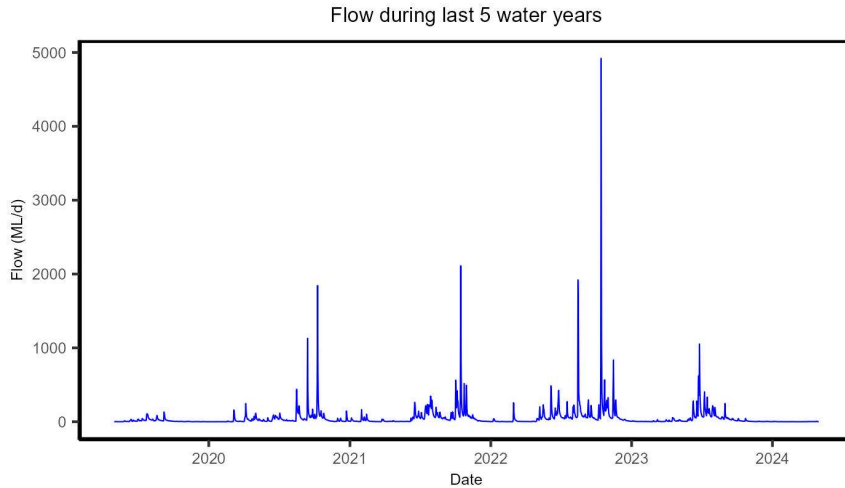


Figure 5. Mean daily flow in the Tomahawk River at the Tidal Limit streamflow gauging station for the last five years.

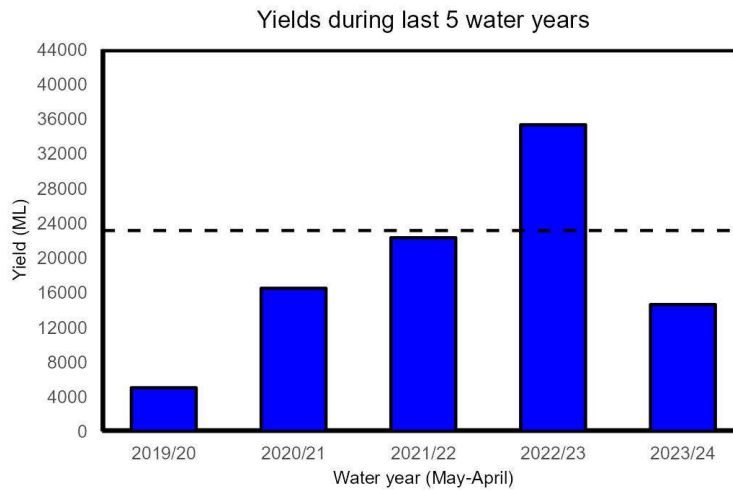


Figure 6. Yields in the Tomahawk River at the Tidal Limit streamflow gauging station for the last five years. The long-term mean yield is shown as the dashed horizontal black line (23,123 ML).

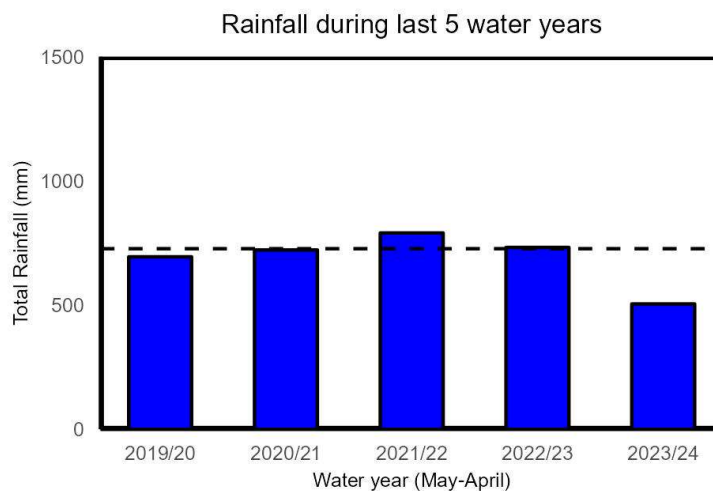


Figure 7. Total rainfall at the Tomahawk (Carisbrooke) BoM weather station during the last five water years. The long-term (1965-2024) mean total rainfall (731 mm) is shown as the black horizontal dashed line.

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

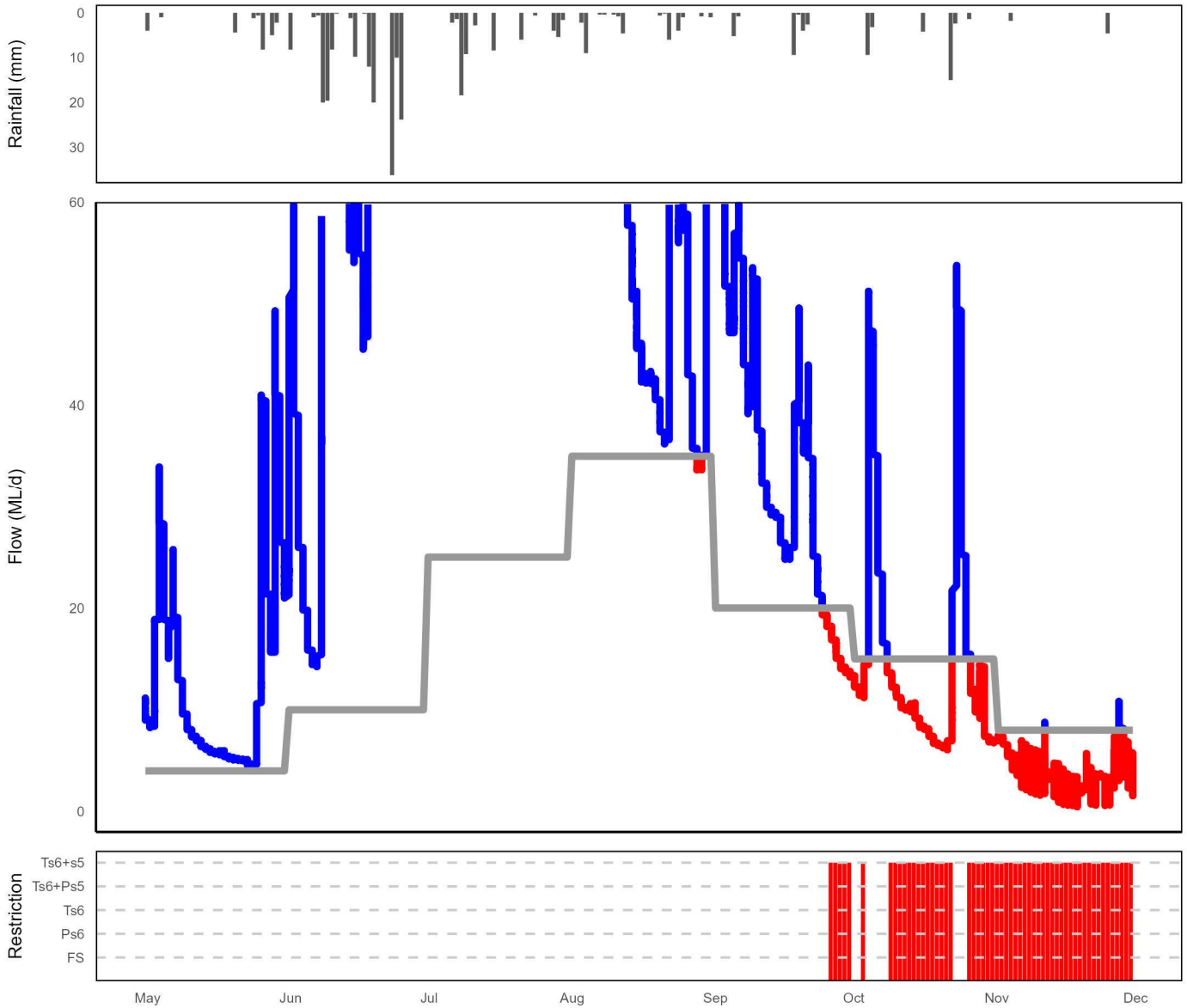


Figure 8. Summary of rainfall, low flows and restrictions in the Tomahawk catchment during winter (May-November) 2023.

Top plot: daily rainfall (Tomahawk (Carisbrooke) BoM site).

Middle plot: instantaneous flow (<60 ML/d) Tomahawk River at the Tidal Limit 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 (214 days: May - November 2023).

Restriction Type	Days at restriction level in 2022/23	Days at restriction level in 2023/24
Total Surety 6 + Total Surety 5	0	56

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

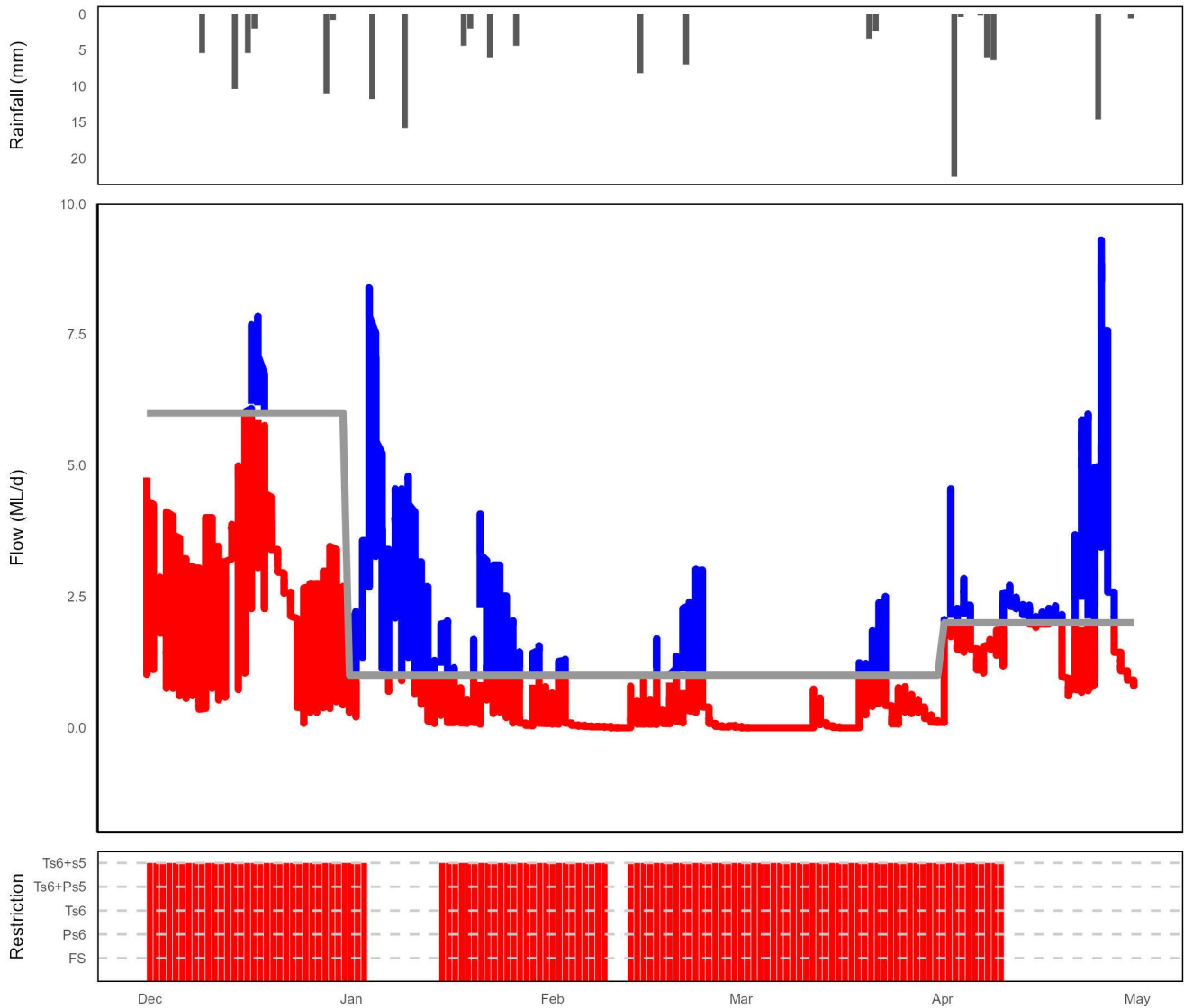


Figure 9. Summary of rainfall, low flows and restrictions in the Tomahawk catchment during summer 2023/24 (Dec-April).

Top plot: daily rainfall (Tomahawk (Carisbrooke) BoM site).

Middle plot: instantaneous flow (<10 ML/d) Tomahawk River at the Tidal Limit 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

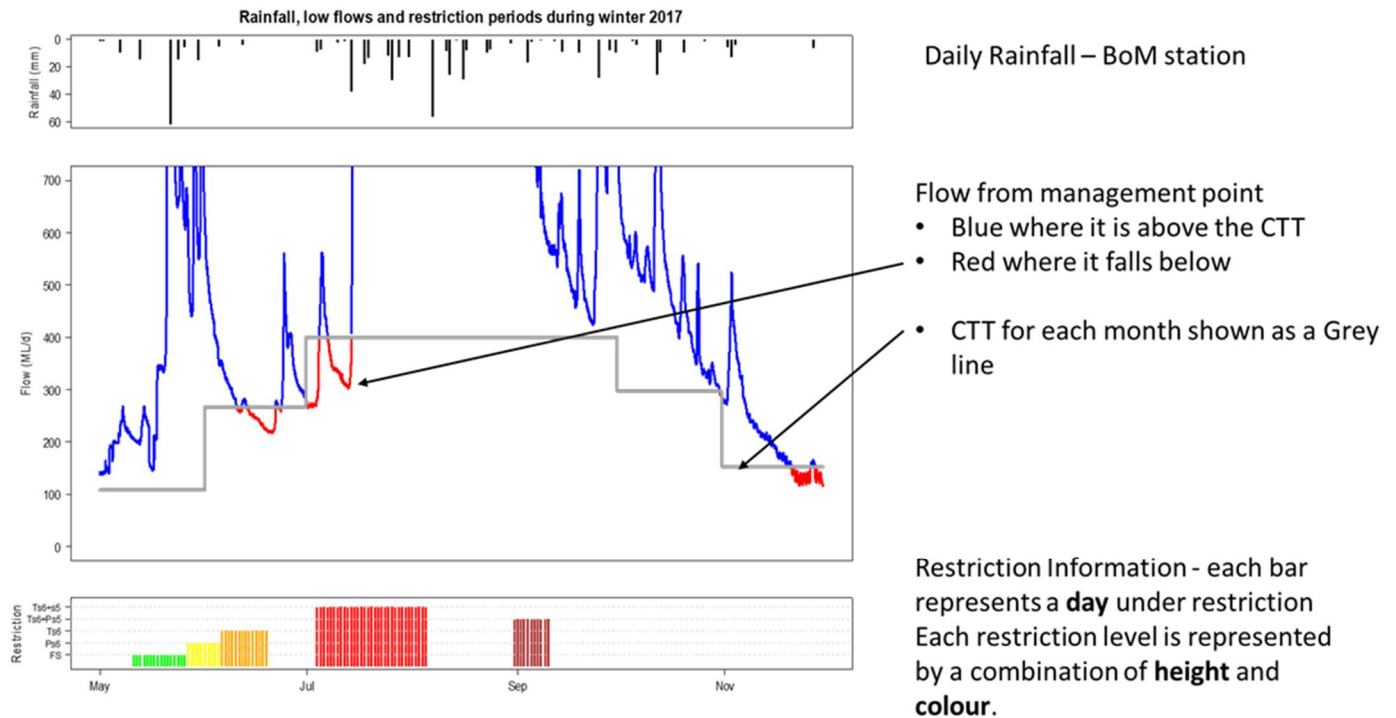
Table 2. Restriction levels and total days at each level for the summer period (152 days: Dec 2023 – April 2024).

Restriction Type	Days at restriction level in 2022/23	Days at restriction level in 2023/24
Total Surety 6 + Total Surety 5	23	118

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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