Watercourse diverters passing low flows

Flows for the Future Program

The Flows for the Future (F4F) Program seeks to re-establish critical flow patterns in watercourses affected by water capture and use in the Eastern Mount Lofty Ranges (EMLR).

The program works with landholders to enable 'low flows' to pass into downstream catchments while also minimising impact on water security. By extracting water from a watercourse only when the water level is above the low flow level, we can ensure these critical low flows are maintained.

In some cases, the existing watercourse diversion (WCD) infrastructure already allows the low flow portion of flow events to continue downstream (passing), while in others a solution needs to be determined. Ensuring catchments can pass flows at the required times helps to maintain healthy systems.

What are low flows?

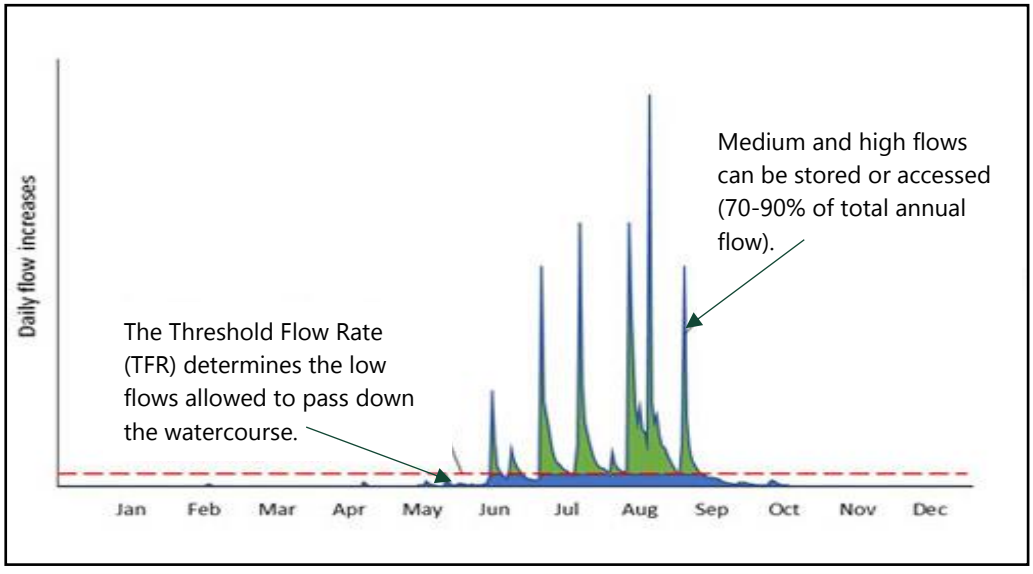
'Low flows' are naturally occurring, regular, small flow events that form a critical part of seasonal water patterns across a catchment. They contribute a small, vital portion of water that helps maintain environmental health. As illustrated in the graph, low flows comprise everything up to and including the Threshold Flow Rate (TFR) that is calculated for an individual site.

The construction of dams and installation of watercourse diversions across the region has significantly altered the timing and volume of flows, meaning essential low flow events are often delayed and do not flow until later in the season, if at all.

Watercourse diverter passing low flows

- **A gauge board with marker (as shown in red above) indicates the site specific TFR**
- **Licenced allocation is extracted above the TFR (red line)**
- **There are over 400 sites in the Eastern Mount Lofty Ranges passing low flows**
- **There is no cost to landholder**

Figure right.
Graph displaying generic seasonal flow with low flows depicted up to red marker line



Types of watercourse diversions

Methods of watercourse extraction are carried out using various types of infrastructure. These can include pumps, floodgates and in-stream weirs (pictured).

Floodgate

In-stream weir

Pumped extraction

What are the steps to determine if a WCD site is already allowing low flows to continue downstream?

A cross sectional survey of the WCD point is carried out by a hydrographic surveyor to determine whether the positioning of current infrastructure is already allowing the passing of low flows.

A survey report is completed by the hydrographer and the findings communicated to the landholder.

Where no infrastructure is present, lows flows are deemed to be passing and the hydrographic survey can determine the height at which any future licensed extraction infrastructure can be situated to ensure low flows continue to be passed. A gauge board is normally installed to future proof low flows at each site.

What if current WCD infrastructure is extracting low flows?

- If low flows are not being passed, funding is available through F4F to support the modification of watercourse diversion infrastructure and/or installation of gauge boards.
- Treatment options may include altering in-stream extraction pipes, weirs or floodgates to ensure the future passage of low flows.
- Any necessary modifications to watercourse extraction infrastructure are agreed upon with the landholder or business.
- Note that the calculation of TFR to be passed at each site is based on site-specific attributes such as location and catchment area. This ensures that the flow rates passed are fair and equitable, and minimise impact to water security.

Contact us to find out more

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