

Flow regimes

Performance monitoring summary for the Healthy Waterways Strategy 2018

Overview

The way water flows through our landscape has changed. Instead of water flowing across the landscape naturally, water is captured in storages by dams and used for towns, cities industries and farming. These changes have interrupted many of the natural river and wetland processes needed by native plants and animals to survive, feed and breed. Environmental flow studies are undertaken to determine what the waterway requires to be healthy. Management plans are developed to help deliver this water in an equitable manner.

The management of flow regimes is considered either regulated or unregulated. In regulated rivers (those with dams), some of the environmental water reserve is made up of the entitlement held by the Victorian Environmental Water Holder (VEWH). This includes the Yarra, Tarago and Werribee. Not all regulated rivers have an environmental entitlement.

Unregulated rivers (those without dams), are managed through private diversions in Stream Flow Management Plans or local management plans. It is critical, especially in the face of climate change that Water for the Environment continues to be managed and delivered to the region's rivers and wetlands and recovery options continue to be investigated. In some estuaries performance objectives seek to maintain critical flow components in refuge reaches to protect instream environmental values and other values e.g platypus.

There are a number of sub-catchments where targets for increased environmental water entitlement have been set in order to provide sufficient water for environmental values. It is envisaged that these increases will be negotiated through the Sustainable Water Strategies process. In un-regulated systems, sub-catchment performance objectives are based on investigating the impacts to flow regimes and developing action plans or delivering through management plans. Other water for the environment programs help to delivery this outcome. The billabong program looks to prioritise, investigate and reconnect key billabongs to enhance their watering regime. The Groundwater Dependent Ecosystem and Drought Refuge Programs look to investigate high value and high risk site and implement Environmental Water Action Plans.

Typical actions to address the group of Flow Regimes include flow Environmental Entitlement releases from dams (e.g. summer fresh), diversion restrictions, irrigation management, farm dam modifications, pumping into wetlands, re-engaging floodplain wetlands, smart tanks, planning and investment activities. Many of these responses align with the Stormwater group, such as the use of smart tanks.

Performance indicators and data:

Performance Objective theme	Performance indicators	Data required to track progress	Timing	Who is involved in reporting
Increase environmental water reserve in regulated systems	GL of environmental water recovered	Victorian water register	Annual from 2018	DELWP Melbourne Water
Maintain or improve flow regimes in unregulated systems	flow compliance, diversion compliance, inundation frequencies met (for wetlands/floodplains)	stream flow gauges, diversion metres modelled outputs relating river water levels to wetland water regime	Annual from 2018	Melbourne Water Southern Rural Water
RPO-12 Water for the Environment continues to be managed and delivered to the region's rivers and wetlands and recovery options continue to be investigated.	Reported using indicators above	As above	Annual from 2018	Melbourne Water Southern Rural Water DELWP

Number of Performance Objectives within each theme:

Performance Objective theme	Regional	Rivers	Wetlands	Estuaries
Increase environmental water reserve in regulated systems		12		1
Maintain or improve flow regimes in unregulated systems		64	56	6
Regional PO (RPO-12)	1			

About this document**Delivering the Performance Objectives**

Melbourne Water and partners will approach implementation of the many different Performance Objectives within this group according to each organisations obligations and delivery mechanisms and their associated capacity and capability to plan and deliver the required activities/works.