Flow management in the Southern Connected Basin

A multi-river approach to support native fish

Murray Cod, photo: Gunther Schmida

The Southern Connected Basin shares a range of ecological values which can be influenced by the careful management of water for the environment.

What is the Southern Connected Basin?

The Southern Connected Basin is a network of rivers that feed into the Murray River between the Hume Dam and the sea.

The network includes Victoria's Goulburn, Campaspe and Loddon rivers, along with the Murrumbidgee, Edward-Wakool and Darling rivers of New South Wales.

As a connected system, managed flows in one area can have a significant positive influence on environmental outcomes in another.

How can we achieve more with a limited amount of water?

Environmental water managers, river operators, researchers and community representatives have collaborated to design fish flows for each major river system within the Southern Connected Basin.

A system-wide approach to the management of water for the environment in the Southern Connected Basin means we can achieve more with a limited amount of water. Improved co-ordination enables cross-border agencies to achieve better results by using available water more efficiently and effectively.



This system-wide approach ensures that outcomes achieved at individual sites fit into the overall basin strategy for the benefit of a healthier and more productive Southern Connected Basin.

It allows water managers to work toward the key environmental goals for the region, including healthier and more resilient fish populations.

How does this approach benefit fish?

Watering events can be strategically delivered throughout the system to ensure a steady transfer of carbon from the floodplain floor into local rivers and wetlands. This carbon is the basic building block of the food web. When released regularly, it supports a robust food web and, at the same time reduces the risk of hypoxic blackwater events.

The aim is to ensure suitable habitat can be managed more effectively to ensure sufficient food for the lifetime of the fish and provide breeding and dispersal cues.

These strategies will help to build source populations of native fish throughout the system. This will, in turn, help native fish populations to strengthen and recover from hypoxic blackwater events.

Strategic releases can improve the health and condition of native fish populations and provide opportunities for them to disperse throughout the river system.

By working with partner agencies, environmental water managers can target key locations and/or native fish populations to provide winter flows or summer refuges.

The technique also paves the way for trialling different flows at different times of the year to ensure fish can move throughout the system even when irrigation demand is low and dams and weirs are traditionally shut down.

What are the main aims of environmental watering in the Southern Connected Basin?

By using a system-wide approach to managing the Southern Connected Basin, water managers can target the environmental objectives of the Basin Plan more effectively.

Under the plan, water managers target four main outcomes:

1. river flows and connectivity
2. native vegetation
3. waterbirds
4. native fish.

Another benefit of managing water for the environment across the whole Southern Connected Basin is the ability to make greater use of any water that is being delivered for maximum environmental outcomes.

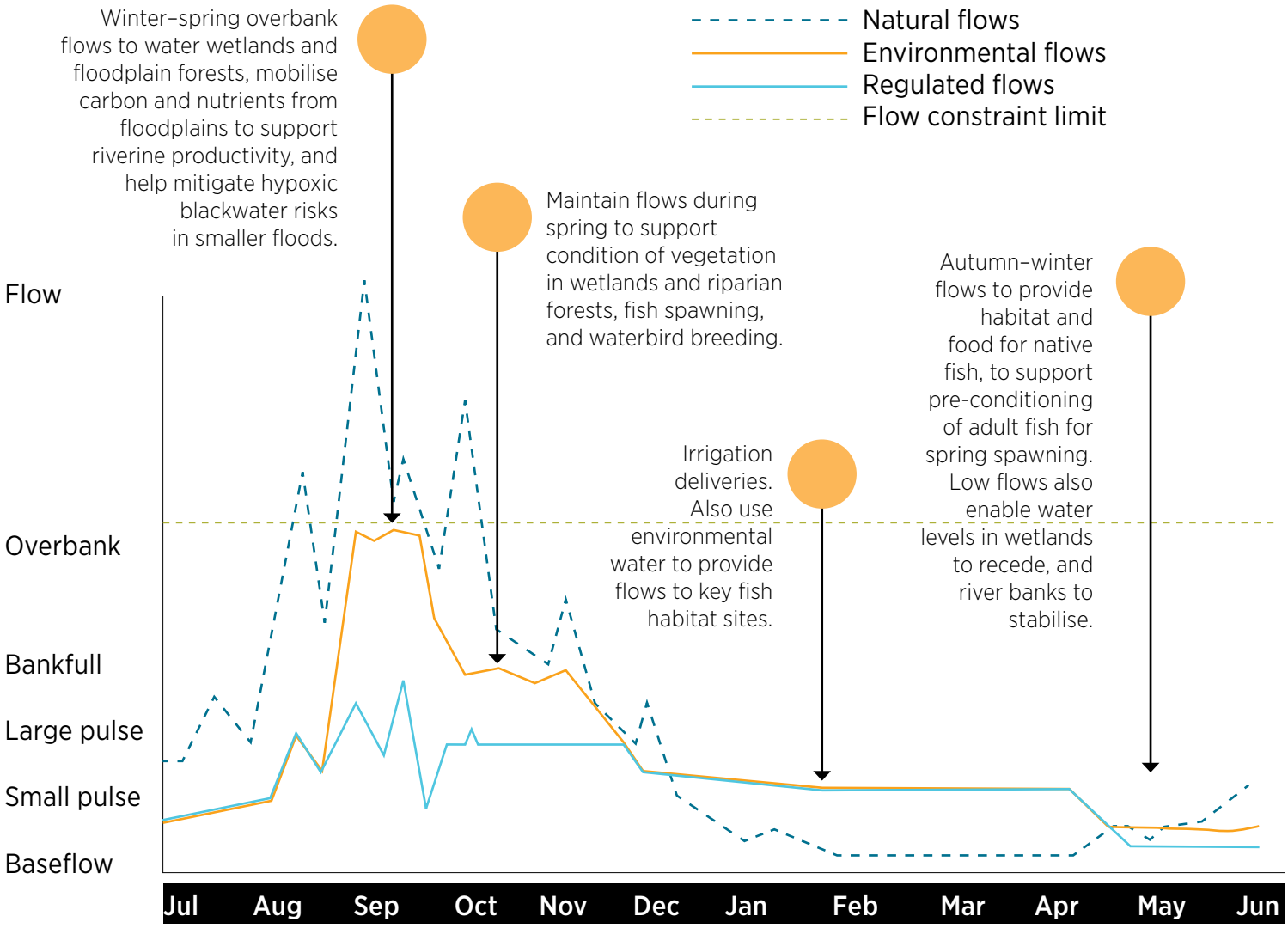
This involves enhancing the effects of existing system flows by adding water for the environment rather than creating an event that consists entirely of environmental flows.

Where is the process up to?

Agencies have started trialling multi-site watering events as part of this system-wide approach. The events are being monitored to assess the outcomes for the broader landscape.

Work is underway to establish mechanisms that make the most efficient use of water for the environment and other existing system flows to ensure the maximum benefit from all available flows throughout the year.

River management and environmental water



Find out more at www.environment.nsw.gov.au/topics/water/water-for-the-environment

Photos, left to right all by Gunther Schmida:
Bony bream, Freshwater catfish and a Golden perch.

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