

River Murray floodplain trees condition

Biodiversity | Inland waters



South Australia's environmental trend and condition report cards 2023



Trend
Getting better



Condition
Poor

☆☆☆ Reliability
☆☆☆ Poor

STATE

Trend

River Murray floodplain tree condition in South Australia is getting better in areas where for water for the environment has been delivered.

This assessment is based on the condition of river red gums and black box trees on the Chowilla, Pike and Katarapko floodplains. These floodplains are actively managed with targeted water delivery and therefore tree condition at these sites is not expected to be representative of the River Murray broader floodplain in South Australia.

The condition of river red gums and black box has improved since the Millennium Drought (1996–2010) that severely stressed floodplain tree populations. While there has been significant improvement in floodplain tree condition, further improvement is required to restore healthy populations of black box.

Overbank flooding, rainfall, elevated within-channel flows and managed inundations of the floodplain via infrastructure have all contributed to the water requirements of river red gums and black box.

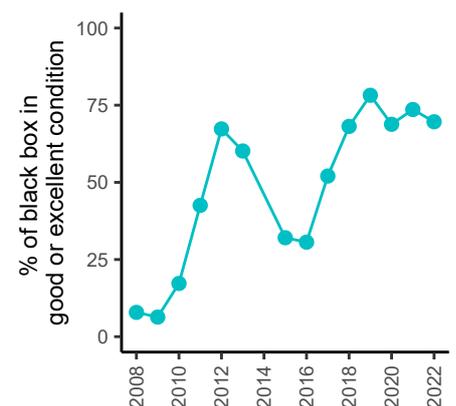
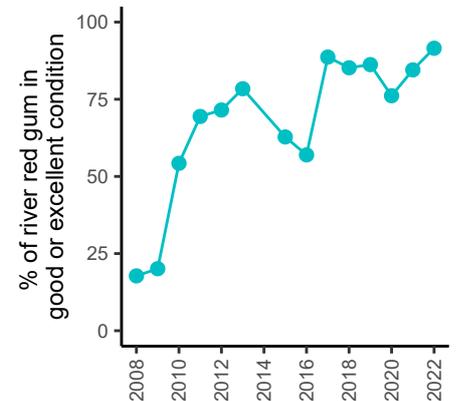
Condition

River Murray floodplain trees in South Australia are in poor condition.

The condition of River Murray floodplain trees in South Australia is determined using a tree condition index (TCI). Population condition is based on the percentage of trees in very poor to moderate condition, and in good or excellent condition.

The condition of individual trees varies and ranges from very poor to excellent condition. Prior to flooding in 2022, 91% of river red gums (top figure) and 69% of black box (bottom figure) were in either good or excellent condition. These percentages reflect a good population condition for river red gum and poor population condition for black box. Differences in population condition reflect their relative locations on the floodplain and water availability.

Floodplain tree condition is rated poor, but is getting better.



Why are River Murray floodplain trees important?

River red gum and black box are two iconic species of floodplain trees along the River Murray in South Australia. These species are important because they uptake and generate carbon and nutrients, support ecological food webs, and provide important habitat for diverse species of insects, fish, amphibians, birds, reptiles and bats.

Floodplain trees are also a culturally and aesthetically important part of the South Australian River Murray landscape.

What are the drivers?

Floodplain tree condition is influenced by the frequency of watering and flooding, rainfall, groundwater level, soil moisture and salinity. The condition of floodplain trees in the South Australian River Murray is primarily driven by the water regime, including high unregulated flows, rainfall and the delivery of water to the floodplains using infrastructure.

River regulation, consumptive water use and drought has changed the water regime, in particular the frequency of floodplain inundation. This has limited the ability of floodplain trees to access water.

What is being done?

Delivery of water for the environment aims to support and improve floodplain tree condition by enhancing connectivity between the river, wetlands and floodplain, and improving the availability of water for the soil.

Water delivery to the floodplain has been achieved via pumping, irrigation, weir pool raising, operation of the Chowilla, Pike and Katarapko environmental regulators and unregulated flow enhancement. Rainfall and unregulated high flows are also critical for the resilience and recovery of these trees.

For further information see: [technical information](#)



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Government of South Australia