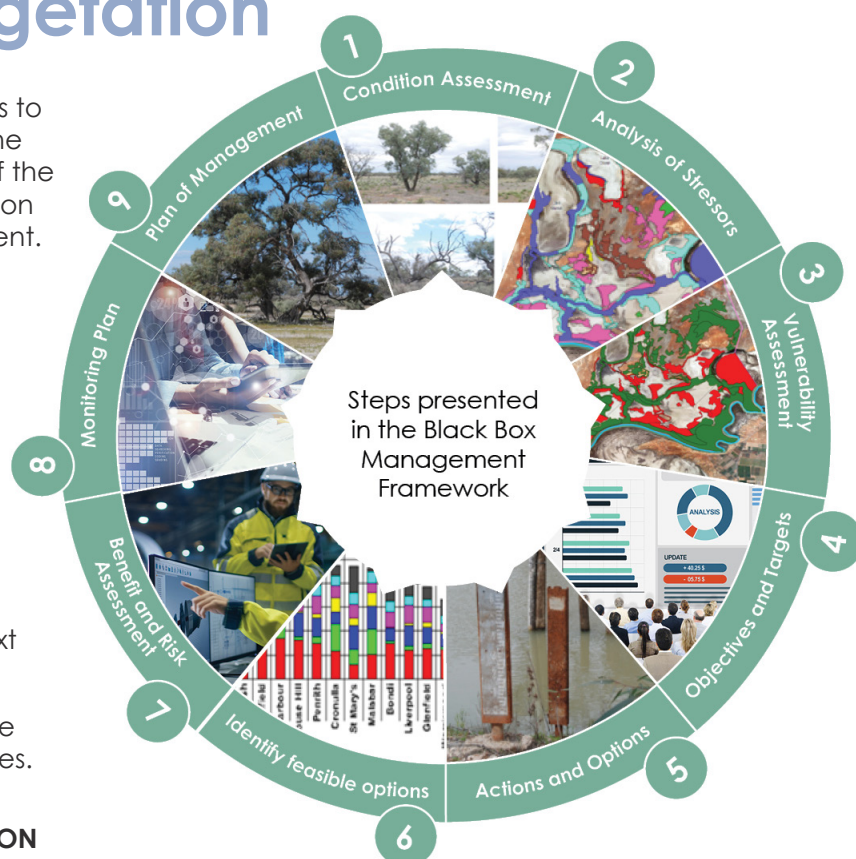


Achieving Ecological Outcomes for Black Box Vegetation

The Black Box Management Framework aims to provide a guide for practitioners targeting the long term Black Box vegetation outcomes of the Murray-Darling Basin Plan, with an emphasis on complementary water and land management.

The Framework:

- Guides evidence based decision-making to support achievement of targeted ecological outcomes for Black Box communities.
- Presents an adaptable set of planning processes, tools and management options applicable to guiding effective Black Box management.
- Provides basin and regional scale context to support site management planning.
- Informs floodplain, region and basin scale planning and the prioritisation of resources.



THE NEED TO MANAGE BLACK BOX VEGETATION

- Black Box (*Eucalyptus largiflorens*) trees provide high value habitat for a range of flora and fauna and provide ecosystem services throughout the Murray-Darling Basin.
- Black Box condition has been declining across the basin due to a combination of stressors including; reduced flooding frequency, elevated groundwater and soil salinity levels, reduced fresh groundwater levels, grazing pressure, and tree clearing.
- Continued degradation of Black Box populations will have far reaching impacts to associated ecosystems.
- Long term outcomes for Black Box focus on maintaining the current extent, arresting the decline in condition, and improving recruitment opportunities, as stated in the Basin-wide Environmental Watering Strategy.

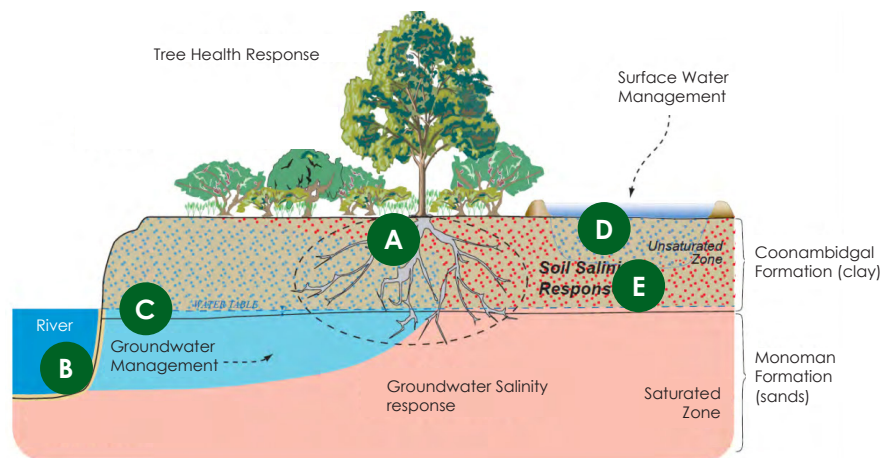


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TREE CONDITION RESPONSE TO MANAGEMENT

- A)** Unsaturated zone soil water availability
- B)** River management to produce lateral recharge and lower salinity
- C)** Groundwater lowering to allow more space in the unsaturated zone for low salinity water (or raise groundwater in the case of freshwater areas)
- D)** Natural or managed surface watering to provide soil moisture and seed dispersal and germination
- E)** Surface watering potentially creating low salinity water lenses



The Floodplain Response Conceptual Model illustrates the key relationships between groundwater and surface water management, soil and groundwater salinity, and tree health response.

MANAGEMENT OF BLACK BOX AT DIFFERENT SCALES

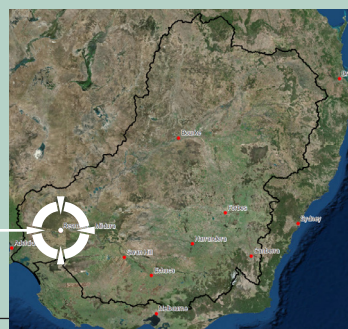


FLOODPLAIN



REACH / REGION

MURRAY DARLING BASIN



The Framework provides insights and discusses issues to consider when managing Black Box at different scales.

KEY PRINCIPLES FOR MANAGEMENT OF BLACK BOX

- Tree health is reliant on both groundwater and surface water management. Management at multiple scales – site, region and basin – is required to combat the underlying causes of Black Box decline.
- Achieving sustainable outcomes for Black Box populations requires complementary land and water management interventions.
- As a long-lived and slow-growing tree, Black Box take several years to transition between states of condition. Multi-year commitments of sustained intervention are required to realise improvements.
- Due to the complex interdependencies of groundwater, surface water and salinity affecting Black Box condition, decisions to implement management options require a level of confidence in the stressors impacting Black Box to justify an effective use of resources.

- Vulnerability is a key factor when prioritising resources for Black Box management. Vulnerability is a combination of condition, stressors, and the likelihood of decline and provides a means of setting objectives and outcomes that are realistic and achievable.

The Black Box Management Framework has been developed through a collaborative process. The CEWO would like to acknowledge significant contributions from a range of stakeholders, especially from the Black Box Working Group.

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