

Project Summary

Yellingbo hydrology works MERI program

Project D4:
Yellingbo

This project will support and inform adaptive management practices for the Cockatoo Swamp, Yellingbo Nature Conservation Reserve.

This project involves a targeted monitoring, evaluation, reporting and improvement (MERI) program to accompany Melbourne Water's current hydrology works program at the Cockatoo Swamp, Yellingbo Nature Conservation Reserve. The hydrology works, which include partial levee bank removals and a four-year pumping trial, are aimed at naturalising water regimes within the Cockatoo Swamp, arresting tree dieback and improving the condition of vital habitat for the critically endangered Helmeted Honeyeater and lowland Leadbeater's Possum.

The works were implemented this year, with three years of the pumping trial to follow (20120–2022). A comprehensive hydrological and vegetation monitoring program has been in place for the past five years, with much of this work funded through an ARC Linkage grant with partners Parks Victoria, Zoos Victoria and Greening Australia. Findings from this program are already informing the adaptive management of Yellingbo and other

ecologically significant sites.

Methods

The current vegetation condition monitoring program includes: surface and ground water-level monitoring; individual tree condition assessments; stand condition assessments using hemispherical photography; surveys of permanent quadrats; seedfall monitoring; and landscape-scale surveys using a drone to capture multilevel LiDAR and multispectral imagery.

Outcomes to date

The Yellingbo MERI program has:

- Highlighted the potential for improved drainage of dieback-affected areas to promote woody vegetation regeneration; and
- Informed restoration activities at other floodplain areas within the reserve and elsewhere (e.g. Macclesfield Creek and Haining Farm) to provide future habitat for Victoria's critically endangered faunal emblems.

Project Team:

University of Melbourne

Joe Greet

Sarah Fischer

Chris Walsh

Melbourne Water

Sarah Gregor

Sarah Gaskill

Steve Hosking

Will Steele

Toufeek Edross



Figure 1: Installation of a temporary weir within a channelised section of the Macclesfield Creek to re-engage floodplain areas critical to lowland Leadbeater's Possums.