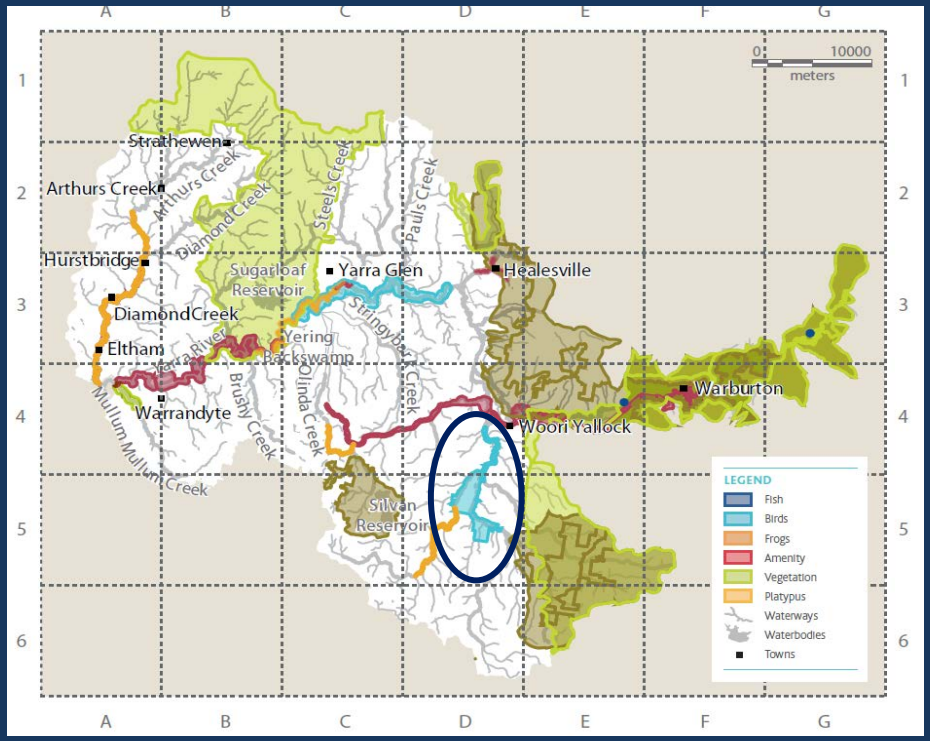
Project 4.2

Cockatoo Swamp hydrology improvement – monitoring and evaluation

Joe Greet, Edwina Manifold, Sarah Gaskill, Rachael Hart

Melbourne Water's drivers for this project and research



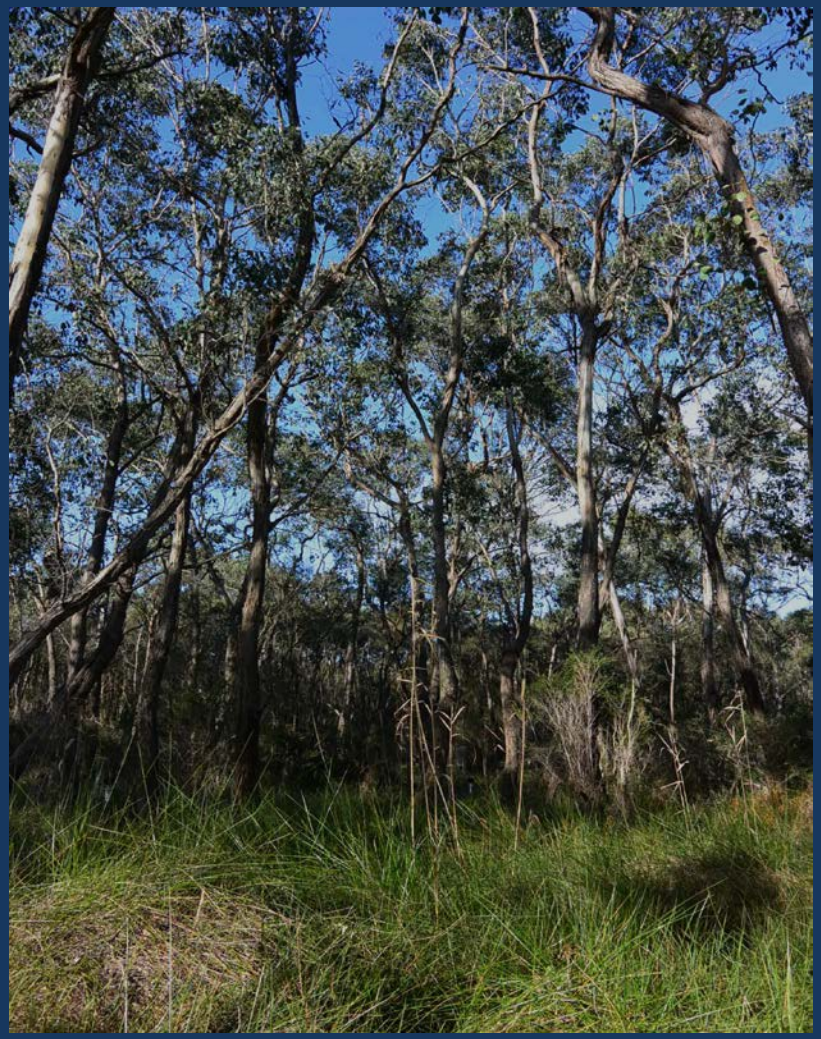
Implementation targets

Implementation targets are a summary of the works we will undertake over the next five years to contribute to the long-term outcomes. Most of these works will be focused in priority areas, but regional programs will also contribute to meeting these targets.

Table 5.28: Implementation targets for the Middle Yarra system

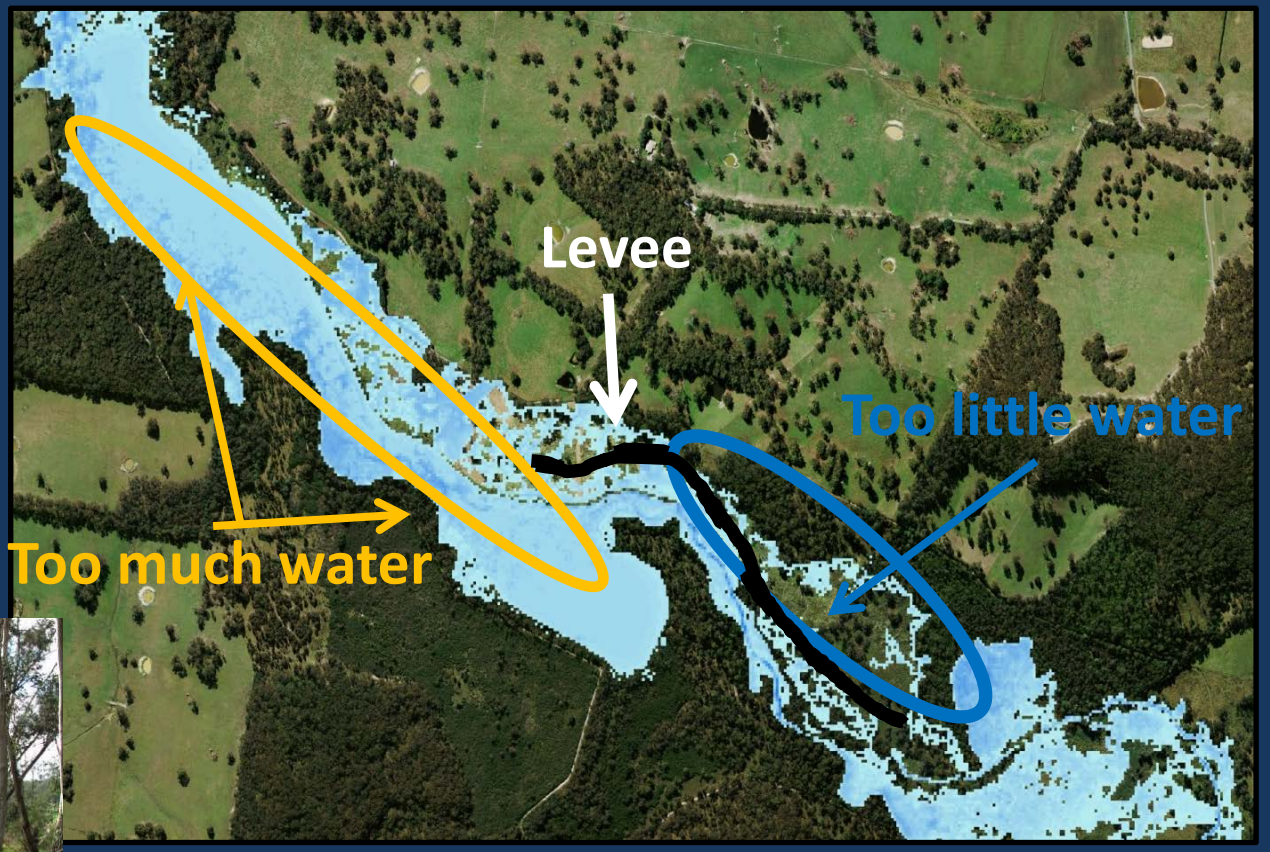
Target	Amount
Km vegetation established to the required level to support waterway values	135
Km of vegetation managed to the required level to support waterway values	2235
Km of stock exclusion fencing constructed	116
Number of fish barriers removed	2
Ha of aquatic habitat improved to the level required to support waterway values	59

Cockatoo Swamp, Yellingbo Nature Conservation Reserve

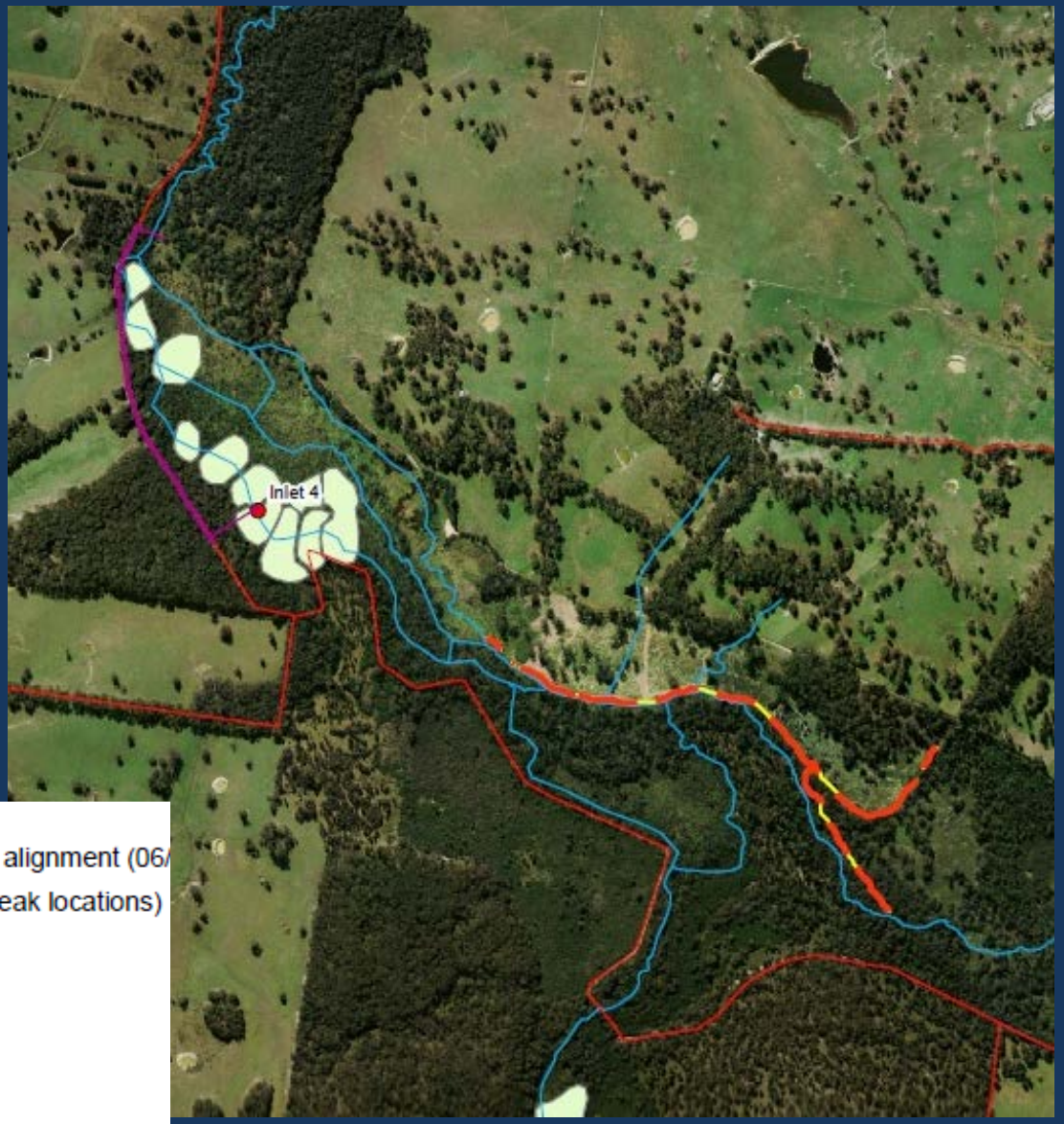


'Sedge-rich *Eucalyptus camphora* swamp' vegetation community

The problem



The solution



Project timing

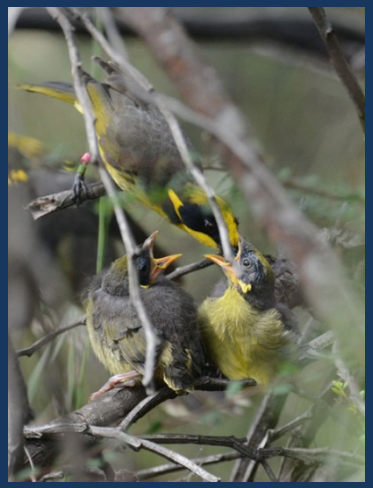
Approvals:

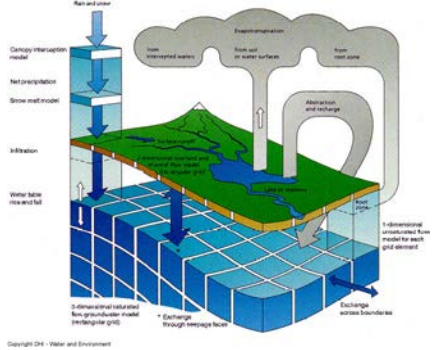
- Cultural Heritage Management Plan
- Threatened Species Management Plan
- Vegetation Offset Strategy
- FFG permit application
- EPBC referral
- 2 x planning permit applications
- Public land manager consent, licence agreement and access agreements

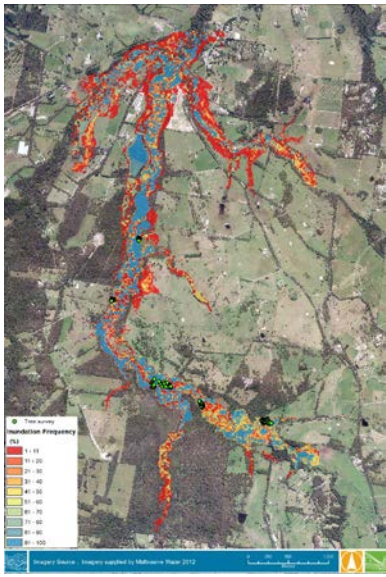
On-ground works:

Levee removal = summer 2017/18

Pumping = January – April 2018 (four years of pumping)







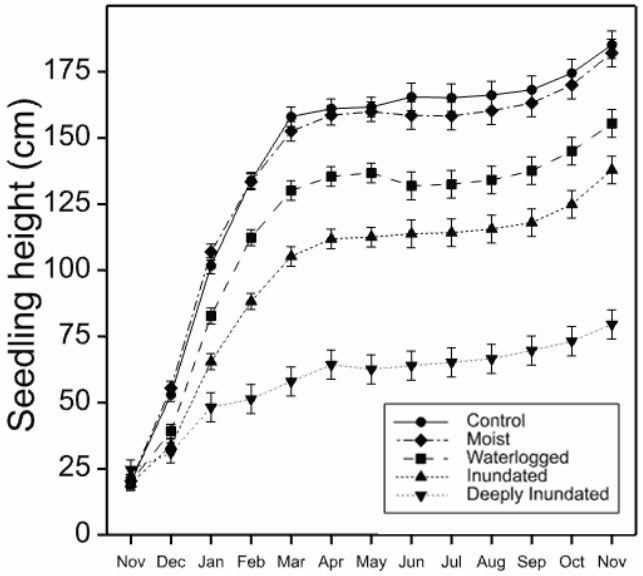
Water regime requirements of *Eucalyptus camphora*?

Australian Journal of Botany
http://dx.doi.org/10.1071/BT15128

The marked flooding tolerance of seedlings of a threatened swamp gum: implications for the restoration of critical wetland forests

Joe Greet

Author's personal copy

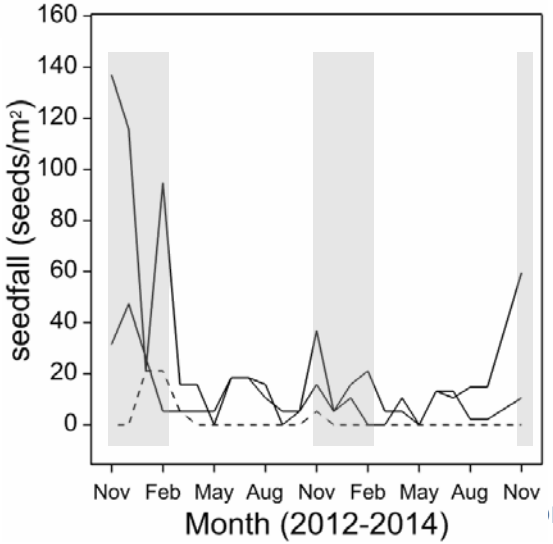


Wetlands Ecol Manage
DOI 10.1007/s11273-016-9488-9

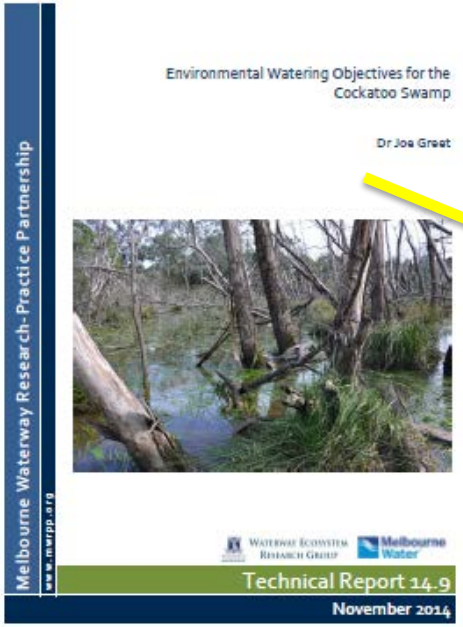
ORIGINAL PAPER

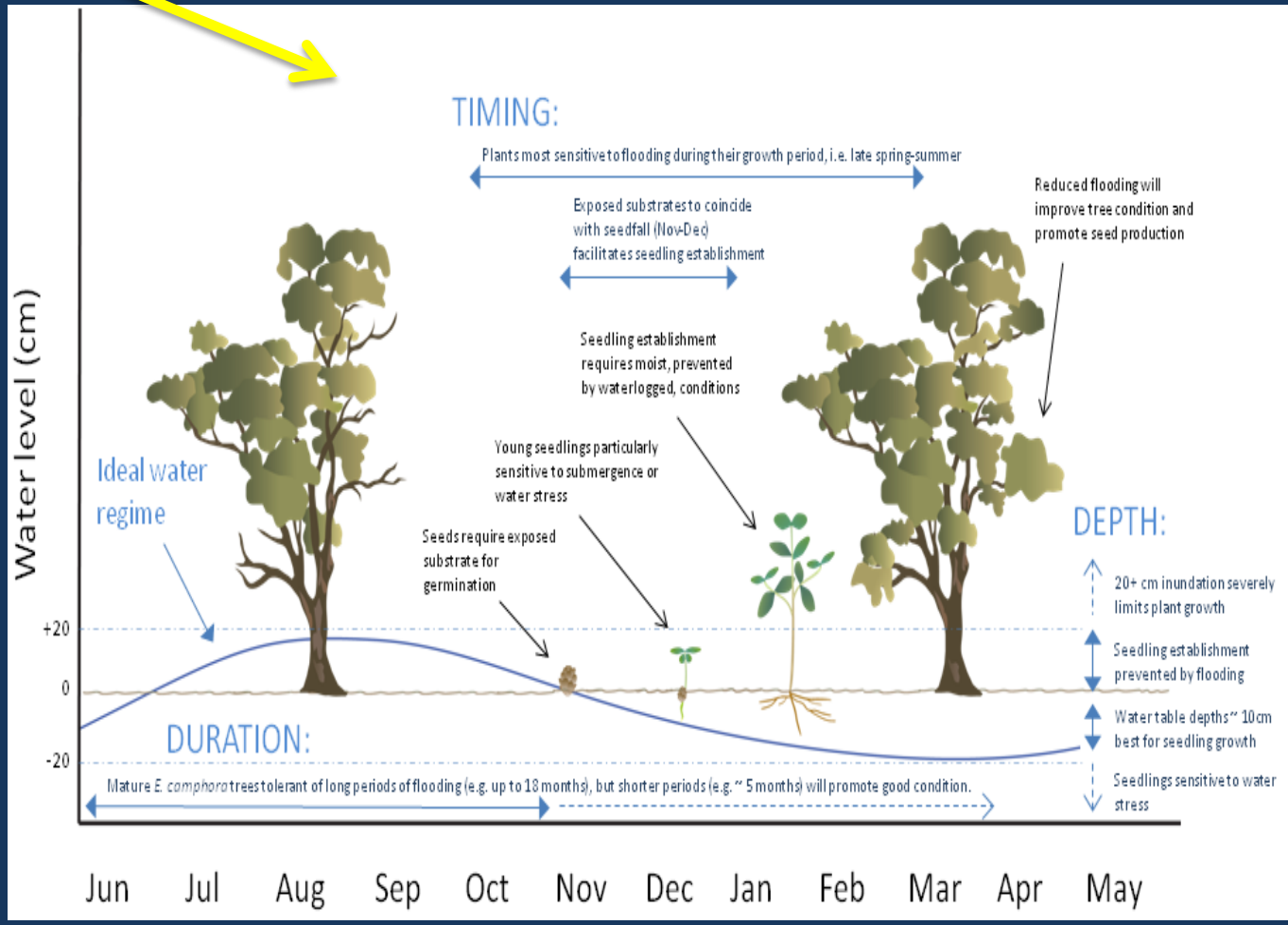
The potential of soil seed banks of a eucalypt wetland forest to aid restoration

J. Greet

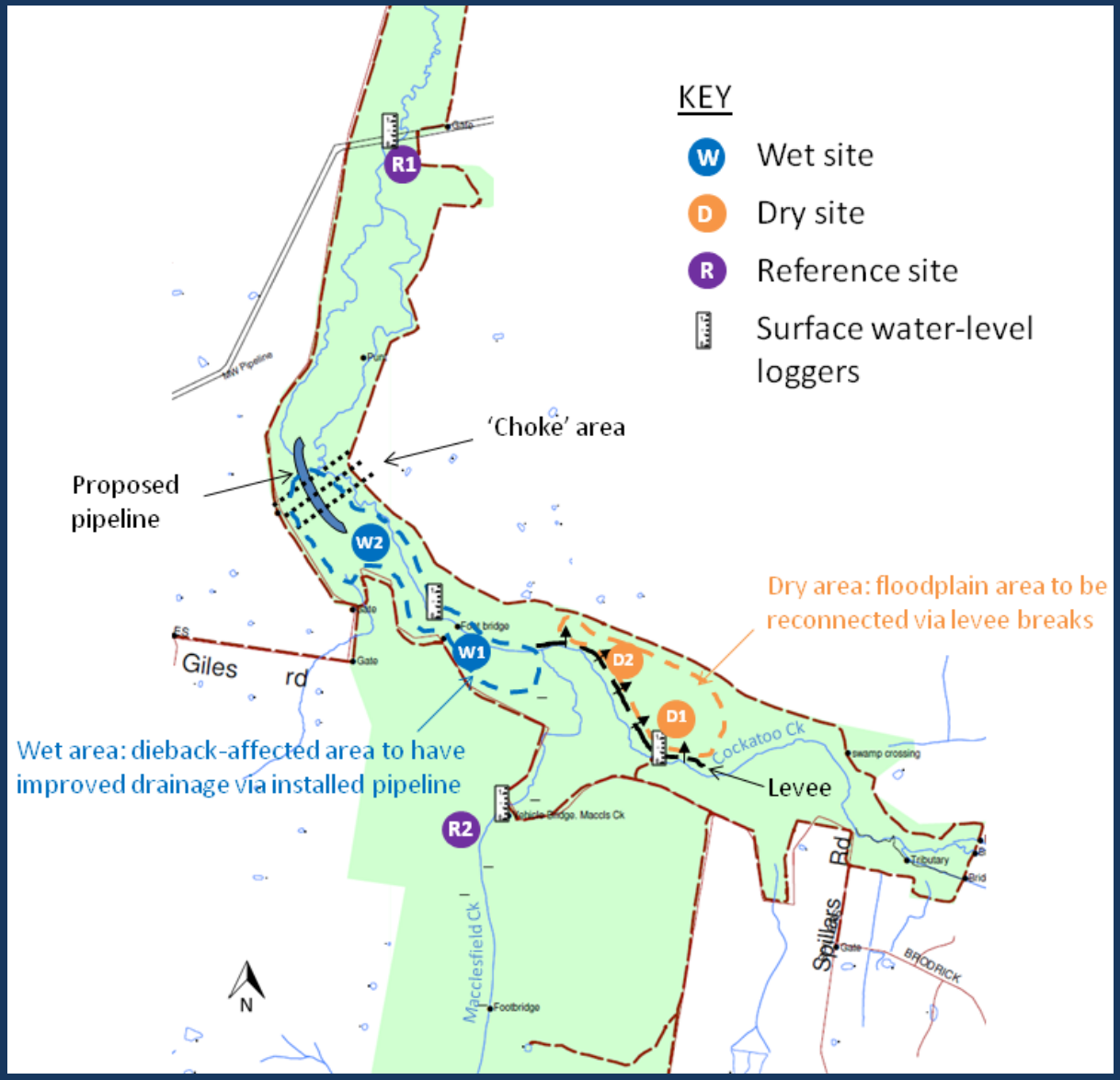


Environmental watering objectives

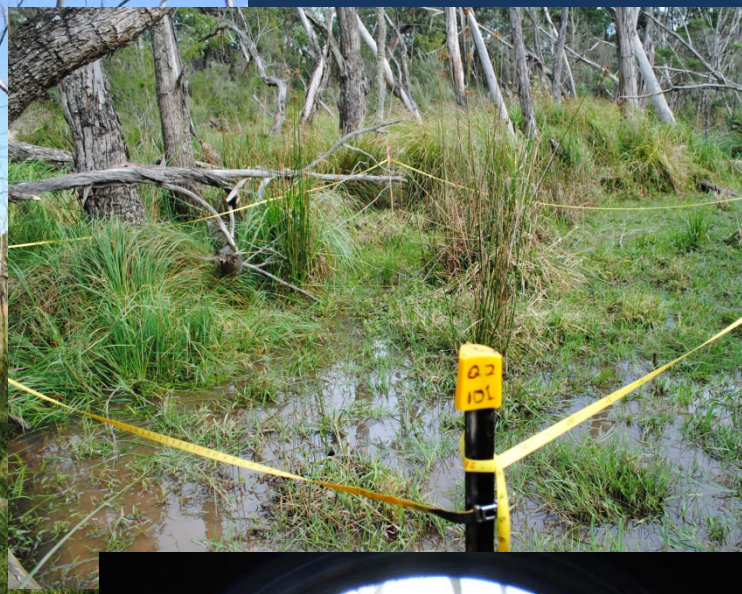




Cockatoo Swamp monitoring program

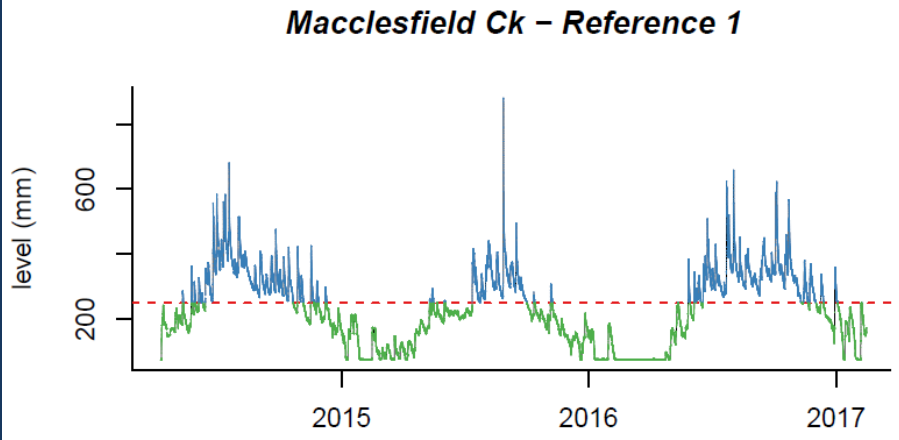


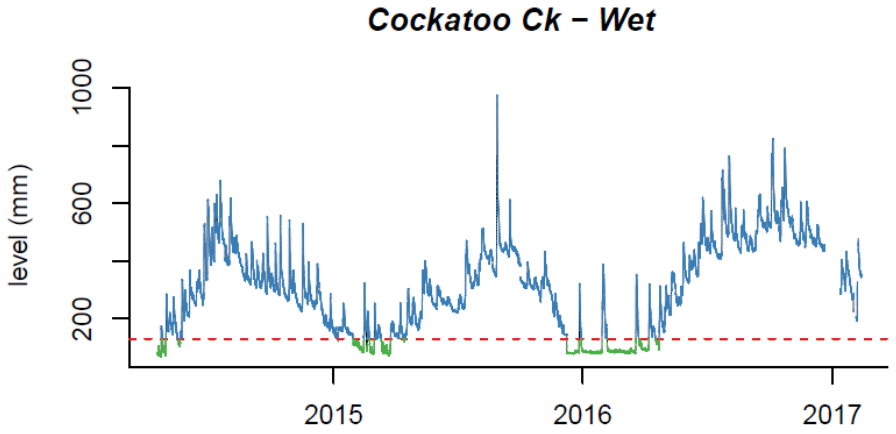
Cockatoo Swamp Monitoring Program

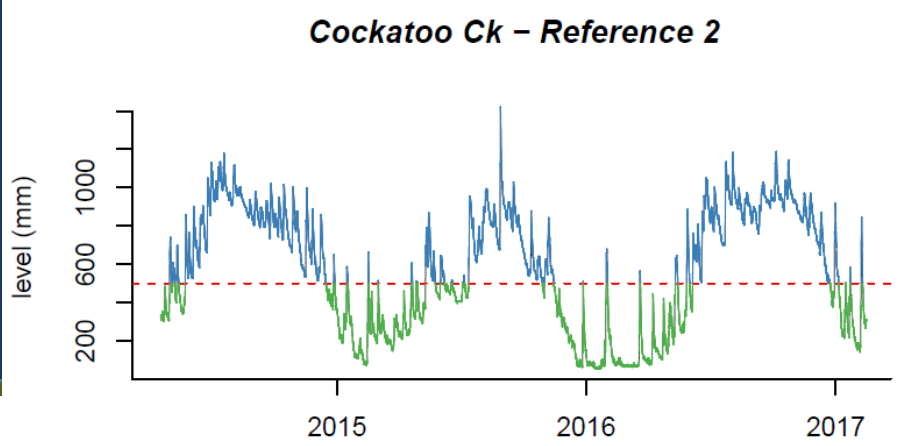


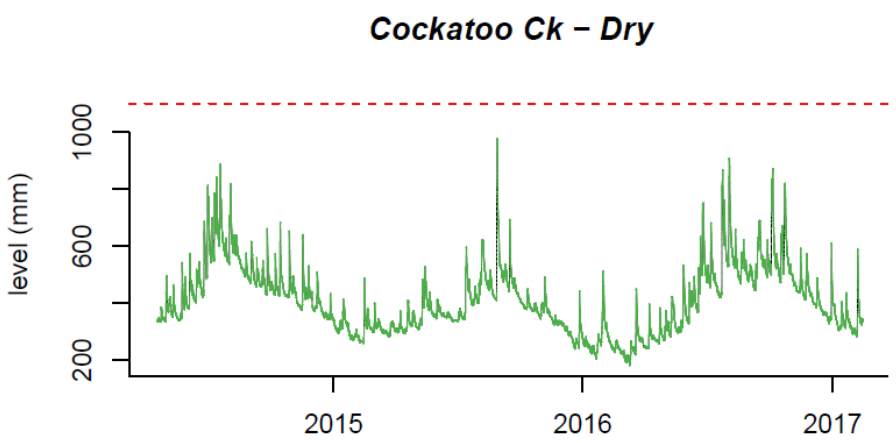
Cockatoo Swamp Monitoring Program

Water levels

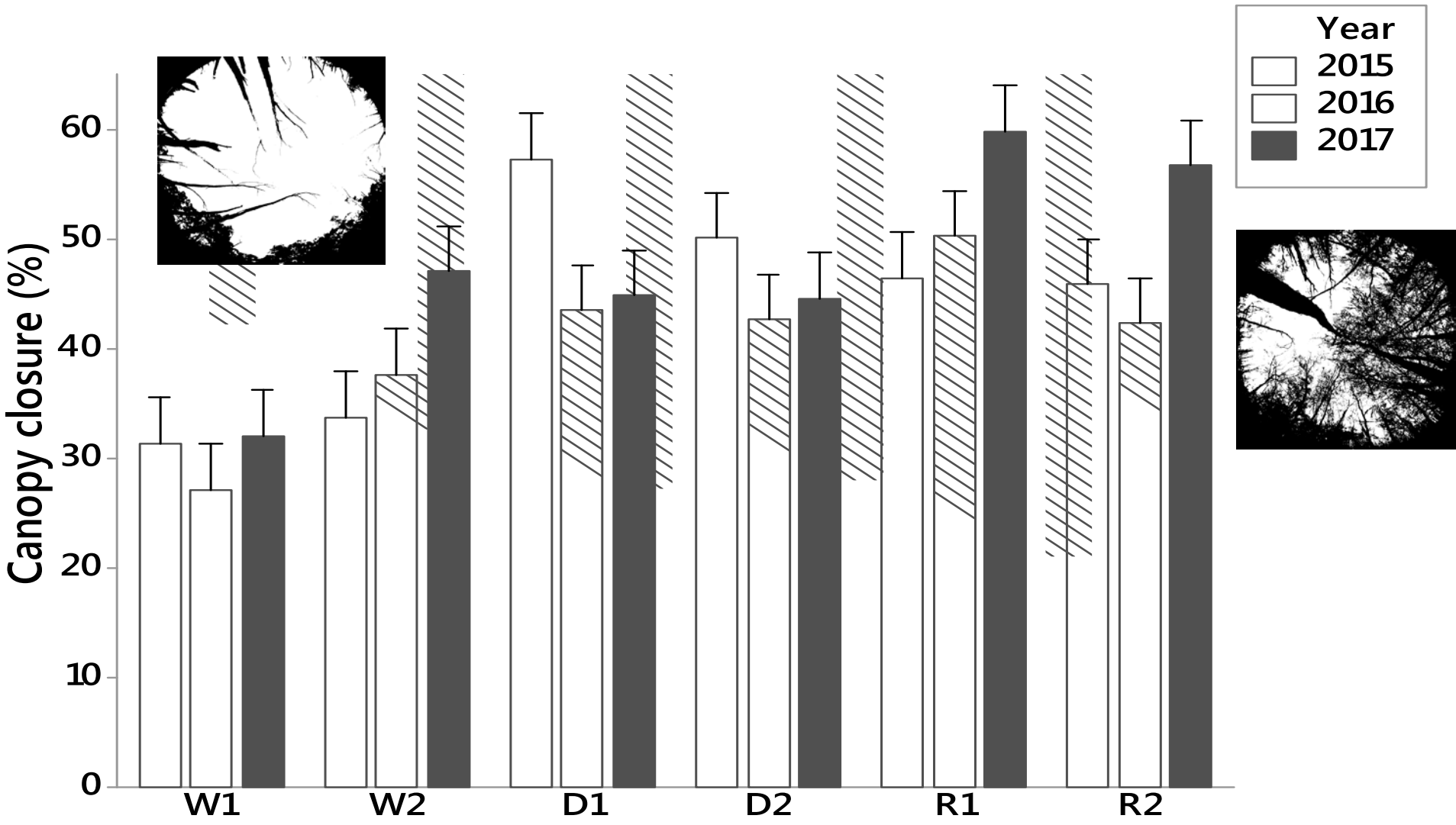






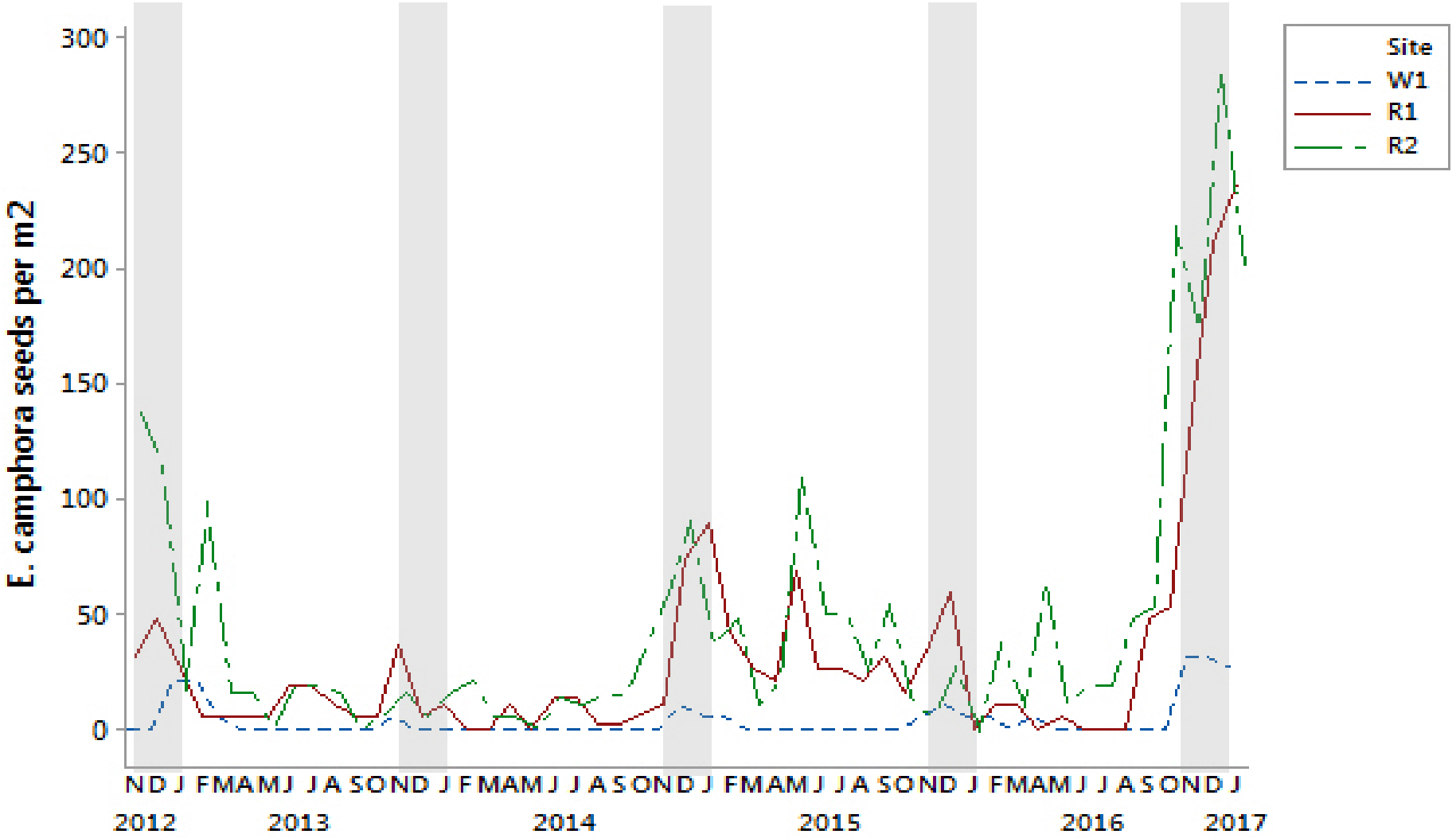


Cockatoo Swamp Monitoring Program
Stand Condition

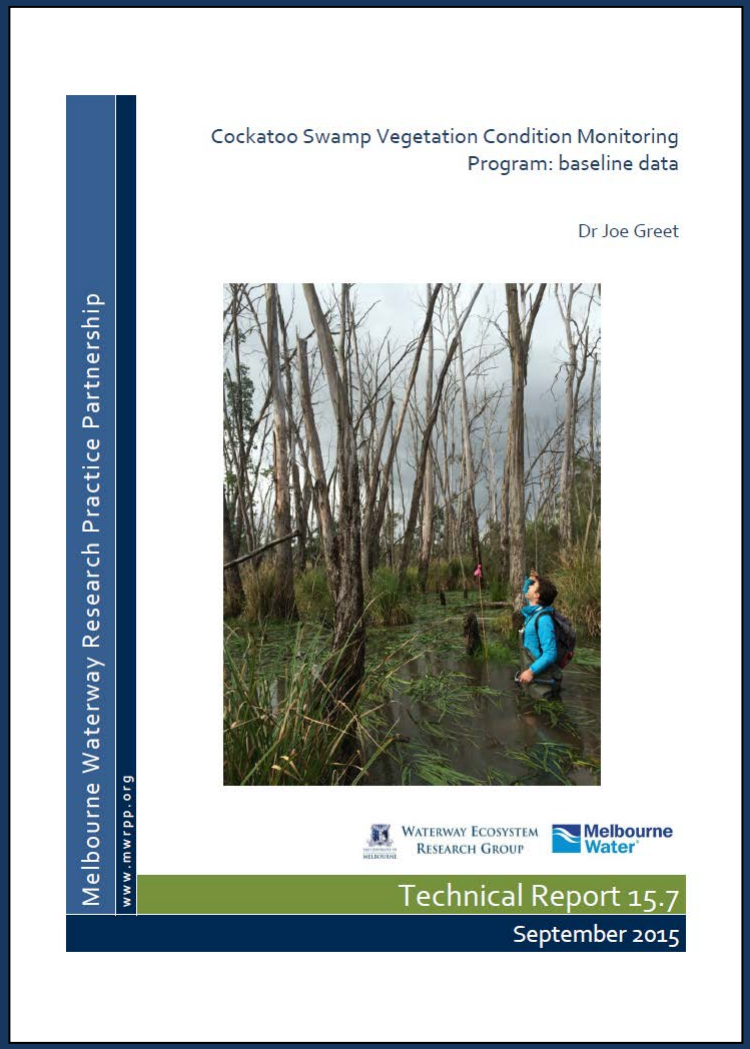


Cockatoo Swamp Monitoring Program

Seedfall

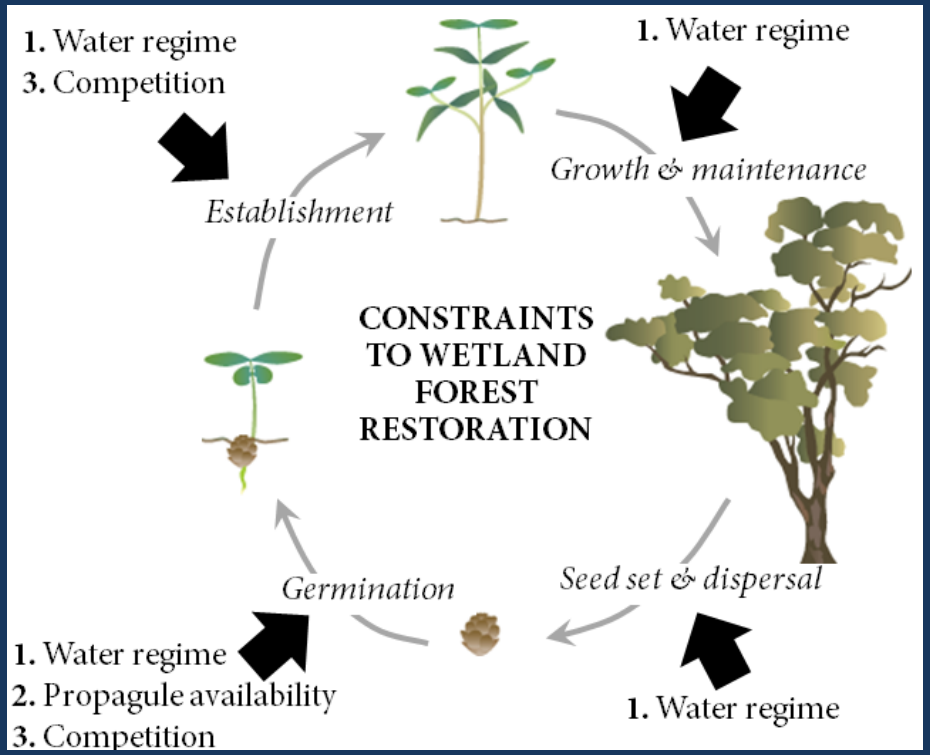


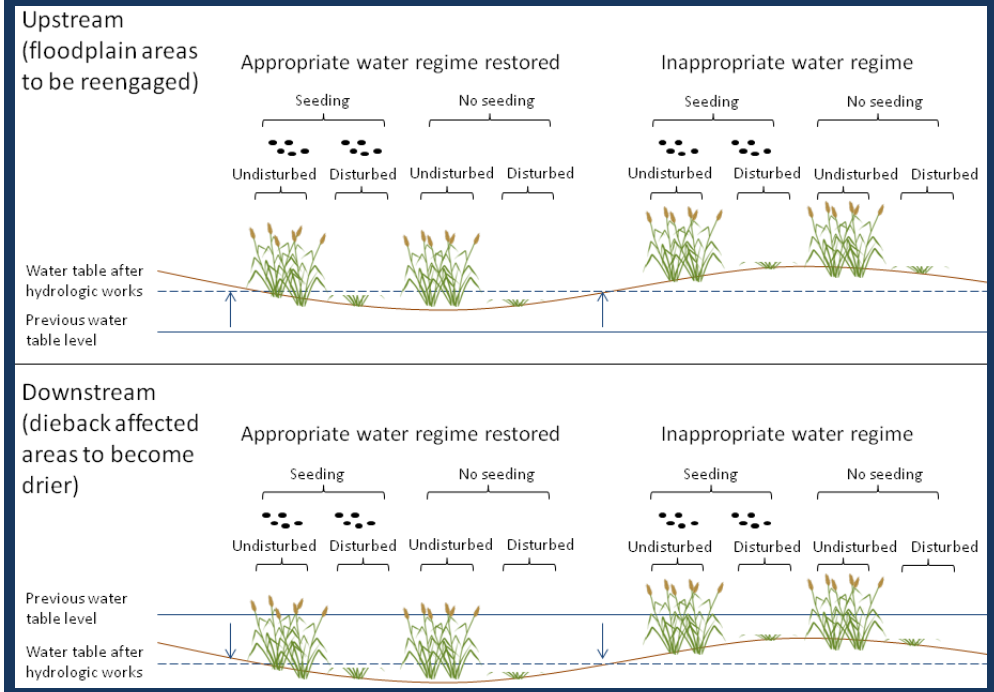
Cockatoo Swamp Monitoring Program



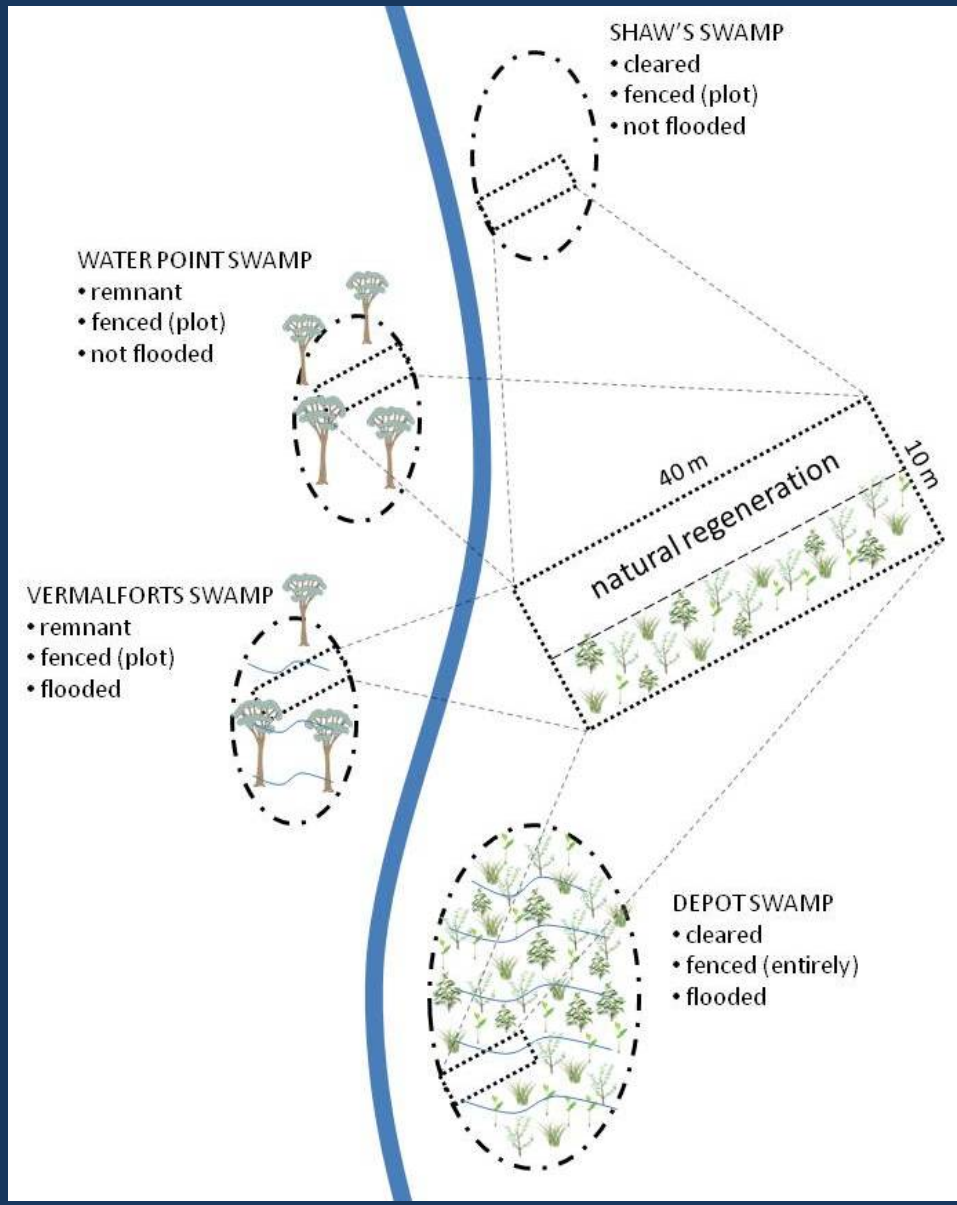
Wetland Forest Restoration ARC Linkage Project

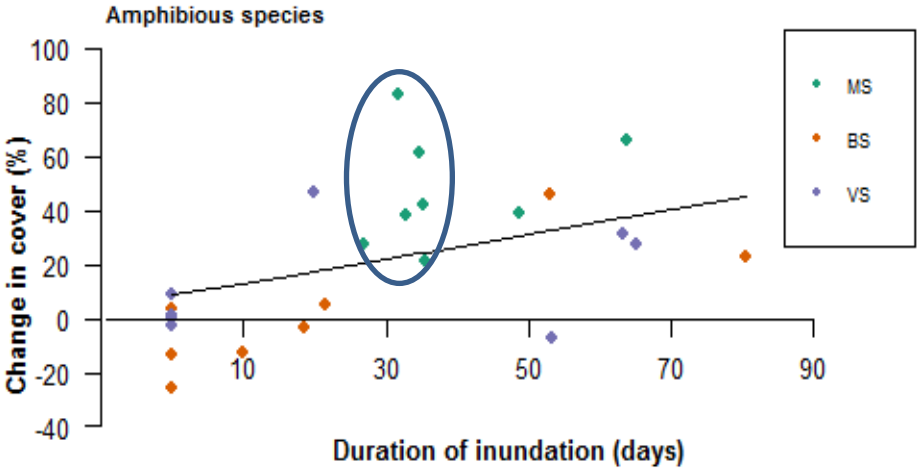
"project aims to test and advance ecological theory, guide wetland restoration and inform management plans for saving Victoria's iconic faunal emblems"

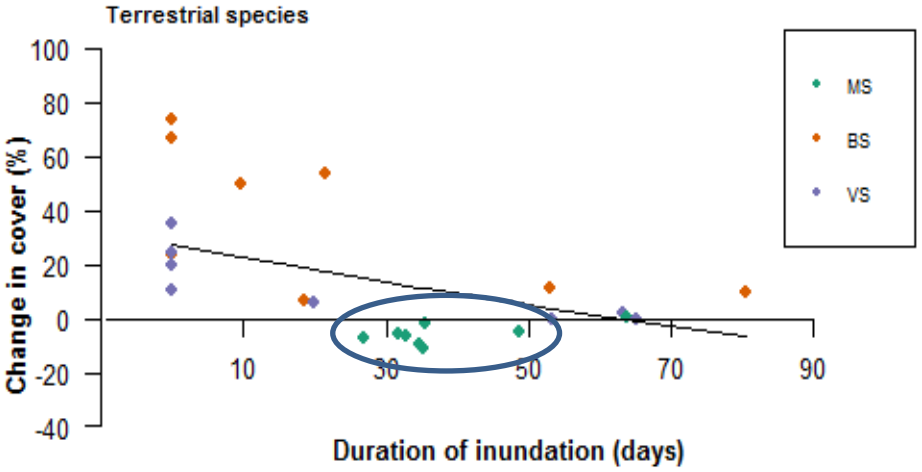


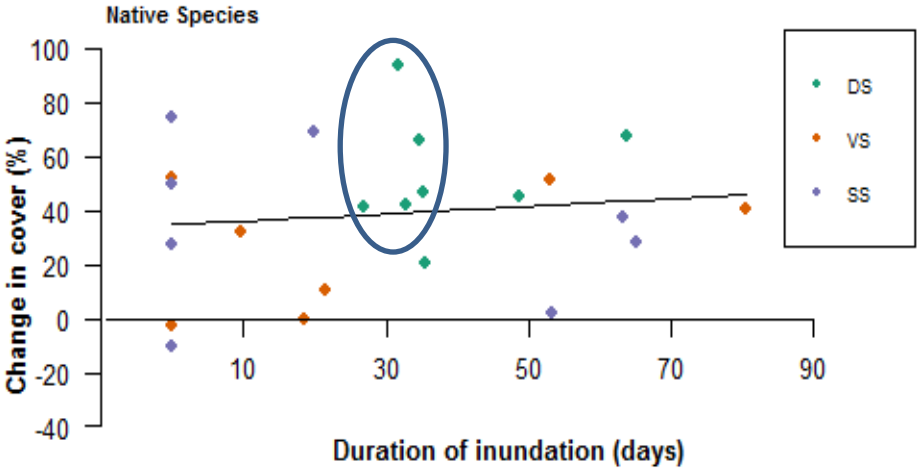


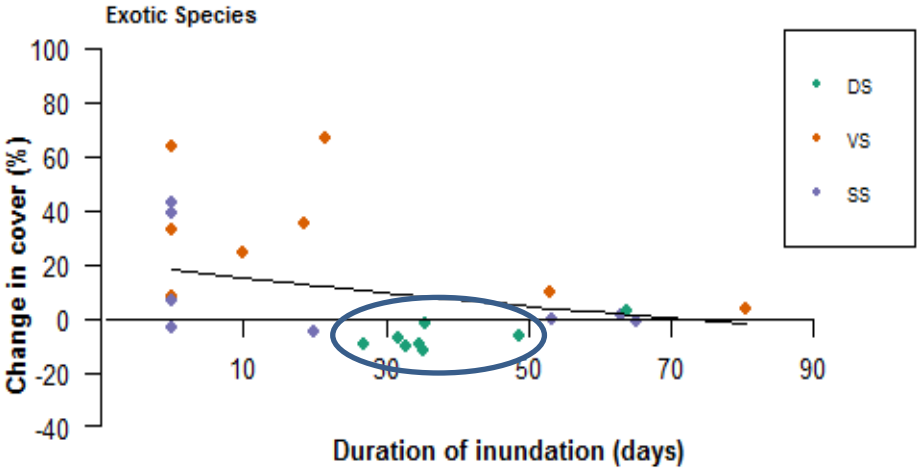
Woori Yallock Billabong Restoration Experiment




Amphibious species
Change in cover (%)
Duration of inundation (days)
MS
BS
VS

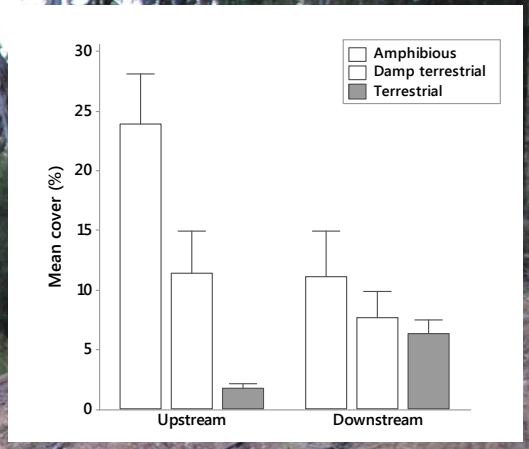

Terrestrial species
Change in cover (%)
Duration of inundation (days)
MS
BS
VS

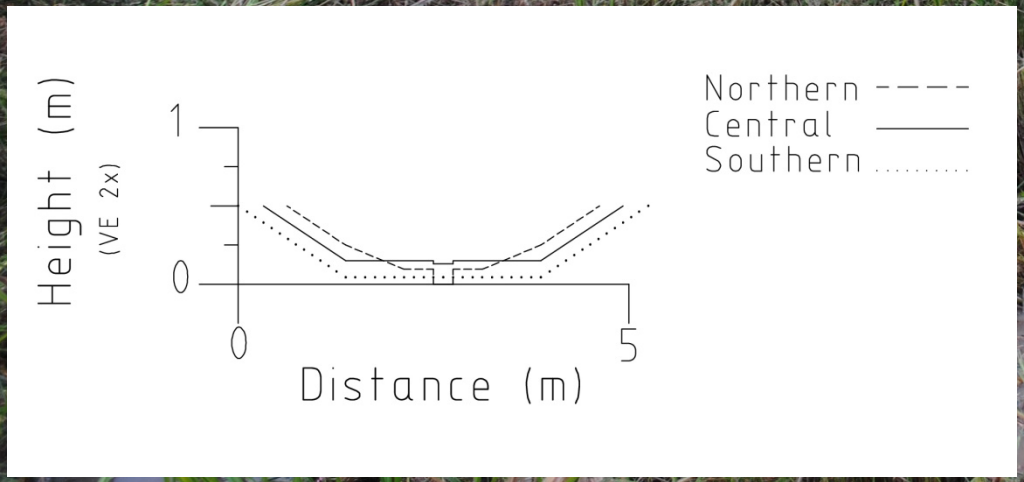

Native Species
Change in cover (%)
Duration of inundation (days)
DS
VS
SS


Exotic Species
Change in cover (%)
Duration of inundation (days)
DS
VS
SS

Phalaris arundinacea: invasion and control

Barak Creek Floodplain Restoration Project





Thanks...