



Combining Stormwater Treatment and Frog Conservation Objectives in a Wetland within an Industrial Catchment

Ms Angela Ganley¹

¹Hume City Council

Biography:

Angela Ganley is currently the Senior Sustainable Environment Officer at Hume City Council. She has been working in Integrated Water Management for over eight years. Most of that time was spent in the water industry before moving to the local government sector in 2017. She has been involved in the design and delivery of a number of integrated water management projects, including recycled water supply, water efficiency for industry, stormwater harvesting and wetland remediation.

Abstract:

Frog Court Wetland is an existing wetland in Craigieburn that treats an upstream industrial catchment and discharges immediately to Merri Creek. This wetland was reset in 2018 to meet a number of WSUD and ecological objectives.

Previous investigations had identified that the Frog Court Wetland was serving no stormwater treatment function. This was due to design and construction issues resulting in a high normal water level which flooded out the GPT, caused bypass of almost all flows when rainfall occurred and reduced the capacity of the upstream pipe system, causing localised flooding issues. Non-compliance of some batters with current safety standards also meant that the site could not be maintained safely and could not be made publically accessible.

The wetland was known to provide habitat for the Environmental Protection and Biodiversity Conservation Act (1999) listed Growling Grass Frog (*Litoria raniformis*). Research had indicated that breeding of the Growling Grass Frog within the Frog Court wetland had been declining over a number of years. A report commissioned by the Department of Environment, Land, Water and Planning (DELWP) recommended resetting and desilting the Frog Court wetland to support the viability of the Merri Creek Growling Grass Frog metapopulation.

The wetland remediation was designed to achieve stormwater capacity, stormwater pollutant reduction and public safety requirements under Melbourne Water Corporation's Wetland Design Manual (2016). In addition, the project was the first to incorporate DELWP's Growling Grass Frog Habitat Design Standards (2017). The design includes:

- A series of deep water ponds, up to 1.5m deep, to support submergent and floating vegetation and to prevent the wetland from being choked by reeds and bulrushes
- Rock beaching to reduce Chytrid Fungus
- Additional instream vegetation suited to the Growling Grass Frog
- Improved water quality, and
- A penstock valve on the outlet structure to help control *Gambusia* and assist with wetland maintenance.

Frog Court wetland is an innovative case study in regard to meeting separate wetland objectives and will provide ongoing learnings for the stormwater industry and for threatened frog conservation.