Extreme wetland makeover – multiple benefits at Mountain View Reserve

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Overview

Stormwater treatment projects provide opportunities for a range of ecological and community liveability benefits, and Penrith City Council's scheme at Mountain View Reserve has evolved to demonstrate this potential.

The subject site in Cranebrook, which is identified as a Regionally Significant Wetland ('Wetland 156') under Sydney Regional Environmental Plan No 20, had become neglected and degraded with weeds after a history including grazing.

The project was initially focussed on stormwater treatment due to its location immediately upstream of Penrith Lakes, as well as improving the condition of the regionally significant wetland and adjacent Cumberland Plain Woodland. A concept had previously been prepared for a stormwater treatment wetland at the site, and through design development this was revised to respond to the existing ecological value found at the site and to suit the available project budget. The treatment system now includes a constructed wetland that was designed to require minimal earthworks and utilise the existing soil surface found at the site.

A collaborative and multi-faceted project has resulted in a number of complimentary sub-projects to improve and activate the site including bush regeneration, walking paths, viewing platform, a bird hide, and artworks. The project has restored the site to a highly valued asset, increasing the resilience and biodiversity value of the remnant wetland, and reactivating community connections through linkages and amenity.

Objectives

This project was identified due to the site's environmental significance as a Regionally Significant Wetland, its proximity to residential communities, and benefits to Penrith Lakes. It was also identified as a priority wetland for restoration in Council's Penrith Lakes (Upper) Sub Catchment Plan 2013 to help protect and improve water quality in the Penrith Lakes System.

The main objectives of the project were to improve the management of stormwater in the Penrith Lakes catchment, improve the condition of the regionally significant wetland and adjacent Cumberland Plain Woodland and engage the community and increase passive recreational use within the reserve.

Method

To deliver the objectives a collaborative approach was undertaken with a range of external and internal stakeholders, including:

- Investigations into the history of the site
- Design workshops with Council
- Preparing plans for the restoration of the natural wetland and design of a constructed stormwater treatment wetland.
- Development of a Vegetation Management Plan for the Cumberland Plain Woodland on the site
- A range of community engagement activities with the local community, including consultation and the establishment of a bushcare group

Results

The project has resulted in:

- Improved stormwater management through construction of a 3,100m2 stormwater treatment wetland, treating stormwater to improve Penrith Lakes and the Nepean River.
- Provision of improved habitat and biodiversity
- Extensive bushland and wetland regeneration with installation of over 70,000 native plants
- Improved linkages and connectivity with the installation of walking paths, interpretive signage, sculptures, a viewing platform and bird-hide.
- Community workshops, events including planting days, a naming competition for the reserve, school events, and a newly established bushcare group that meets monthly.

Conclusions

The project exceeded the expectations and original goals regarding the level of community engagement and support, and the improved resilience of the bushland and wetland. The site has been activated and is now widely used by the community. It provides a range of benefits including enhanced stormwater management, biodiversity values, recreational, social and health benefits as well as indirect benefits to the environment through educational outcomes.

Learnings from the project can be transferred to other areas of Council as examples of how to deliver multiple outcomes and benefits. The collaboration of a range of internal and external stakeholders has resulted in many different outcomes being delivered.