

Reinstating Fresh Water Ecosystems – The “Wildlife Lake”, Penrith Lakes Scheme.

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The Penrith Lakes Scheme is an approximately 2000Ha former sand and gravel quarry located in Castlereagh NSW. As a Peri-urban rehabilitation program, this project presents unique challenges for the land manager. The landforms and lakes have been totally reshaped from the shale bedrock forming a 100 hectare Lake, surrounding foreshore and terrestrial landscape, hanging swamps, islands and peninsula's. The land forming and lake shaping process cumulated in the “Wildlife Lake, presenting a blank canvas for the reinstatement of the pre-disturbance ecological communities.

As part of the sites rehabilitation the northern most portion of the scheme was designed and constructed to be visually integrated within the context of the flood plain and river and of optimum attractiveness to wildlife. In order to meet this criteria a range of keystone species were selected and the habitat requirements noted. These habitat requirements formed the design features of the precinct.

Desktop studies and physical surveys were conducted to determine the species and composition which were present in the area pre settlement, and still remain locally which could be used as a seed source. A final mix for the colonising stage of revegetation was selected based on propagule availability, fauna requirements and historic success on other constructed landforms.

Tree and shrub seeds were collected from along the banks of the Nepean River and its tributaries and grown in our on-site nursery. Native grasses were collected and grown on in “grass farms” to provide seed for broad acre planting. Natural wetland material was transplanted into constructed wetlands prior to quarrying. This material was then transplanted back to the Wildlife Lakes edges providing a natural diversity. Since the practical completion of the primary rehabilitation works in December 2013 a range of wildlife have begun to use the site including 118 bird, reptile and Marsupial species.