

Table 3.2.1 Yarra system potential environmental watering actions, expected watering effects and environmental objectives

Potential environmental watering action	Expected watering effects	Environmental objectives
Yarra River – reach 2 and 5 (Millgrove and Warrandyte)		
Winter/spring low flow (June to November) reach 2: 80-350 ML/day; reach 5: 350-750 ML/day	- Physically mix pools to minimise the risk of stratification and low dissolved oxygen - Maintain access to habitats for fish, waterbugs and platypus - Wet bank vegetation to promote growth	 F1  MI1  PR1  V1  WQ1
Winter/spring fresh(es) (one to three freshes for three to seven days during June to September) reach 2: 700 ML/day; reach 5: 1,300-2,500 ML/day	- Scour sediment and biofilm from gravel in riffles to improve spawning opportunities for Macquarie perch - Wet native streamside vegetation on the banks of the river to promote growth - Provide cues for upstream migration of juvenile migratory fish (e.g., Australian grayling and tupong) - Entrain organic material to support carbon cycling	 CN1  F1  G2  V1
Spring high flow (one high flow for 14 days during September to October) reach 2: 700 ML/day; reach 5: 2,500 ML/day	- Scour sediment and biofilm from gravel in riffles - Provide prolonged wetting to favour flood-tolerant native vegetation in the streamside zone - Provide cues for upstream migration of juvenile migratory fish (e.g., Australian grayling and tupong) - Improve spawning opportunities for Macquarie perch - Entrain organic material to support carbon cycling	 CN1  F1  G2  V1
Summer/autumn low flow (December to May) reach 2: 80 ML/day; reach 5: 200 ML/day; reach 6: 300-450 ML/day	- Physically mix pools to minimise the risk of stratification and low dissolved oxygen - Maintain access to habitats for fish, waterbugs and platypus	 F1  MI1

		 PR1  WQ1
Summer/autumn freshes (three freshes for two days during December to May) reach 2: 350 ML/day; reach 5: 750 ML/day	• Flush pools to prevent a decline in water quality • Scour sediment and biofilm from gravel in riffles and pools to maintain habitat quality for fish and waterbugs • Provide opportunities for the localised movement of fish and platypus • Wet the banks of the river to maintain flood-tolerant vegetation on the banks	 F1  G1, G2  PR1  V1  WQ1
Autumn high flow (one high flow for seven to 14 days during April to May) reach 2: 560 ML/day; reach 5: 1,300 ML/day	• Cue the migration of Australian grayling • Scour sediment and biofilm from gravel in riffles and pools to maintain habitat quality for fish and waterbugs	 F1  G1, G2
Yarra billabongs		
Willsmere Billabong (partial fill in spring) ¹ 	• Fill the wetland to the partial supply level • Allow to draw down to support the growth of threatened wetland plant species and encourage the regeneration of spreading aquatic herbs • Maintain a pool over spring/early summer to provide breeding habitat for frogs and waterbugs	 A1  F1  V2
Yering Backswamp (fill monthly in autumn/winter/spring)	• Wet the deepest parts of the wetland to about 80 cm to provide habitat for frogs • Wet remaining areas of the wetland to about 40-60 cm to support the growth of threatened wetland plant species and encourage the regeneration of spreading aquatic herbs	 A1  V2
Domaine Chandon billabongs (fill and keep full in autumn/winter/spring)	• Fill the wetlands to full supply level to support the establishment of aquatic and semi-aquatic revegetation	 V2
Annulus Billabong (partially fill in winter/spring if conditions/resource allow) 	• Wet the wetland bed to support the growth of threatened wetland plant species to rehabilitate shallow marsh, deep marsh and freshwater meadows • Provide habitat for frogs, waterbirds, waterbugs	 A1  F1

	and eels	 V2
Burke Road Billabong (fill in spring/summer if conditions/resources allow) 	- Wet the wetland bed to support the growth of aquatic and semi-aquatic vegetation - Inundate the wetland to prevent the encroachment of terrestrial vegetation - Provide habitat for frogs and waterbirds	 A1  V2
Bolin Bolin Billabong (partial fill in winter/spring if resources allow) 	- Maintain a permanent pool to provide habitat for frogs, waterbugs and any remaining eels - Allow to draw down over summer and autumn to support the growth of threatened wetland plant species and encourage the regeneration of spreading aquatic herbs	 A1  F1  MI1  V2
Banyule Billabong (fill in spring/summer if resources allow) 	- Support targeted weed management and promote native vegetation recruitment to rehabilitate areas of shallow marsh, deep marsh and freshwater meadows and conserve the indigenous vegetation character of the billabong - Provide habitat for frogs and other native animals such as eels	 A1  F1  V2

1 Filling time depends on advice from specialists.