










Variation to the Seasonal Watering Plan 2024-25












This variation was made to Section 5.2.3. Gunbower Forest and Creek of the Seasonal Watering Plan 2024-25 by the VEWH Commission on 22 October 2024.

5.2.3 Gunbower Forest and Creek

Amended text in tables 5.2.6 and 5.2.7 shown in red.

Table 5.2.6 Potential environmental watering actions, expected watering effects and associated environmental objectives for the Gunbower Forest and Creek system.

Potential environmental watering action	Expected watering effects	Environmental objectives
Gunbower Forest		
Top-up and spill Little Gunbower complex & Barapa Swamp in spring.	<ul style="list-style-type: none"> Promote growth of river red gums and understorey vegetation on the floodplain. Provide diverse feeding and breeding habitat for waterbirds, small-bodied native fish, frogs and turtles in wetlands and the surrounding floodplain. 	A1  B1  F1 F2  T1  V2 
Top-up Reedy Lagoon in spring. Trigger – Presence of uncommon small-bodied native fish	<ul style="list-style-type: none"> Maintain water quality and available habitat for uncommon small-bodied native fish species over summer. 	F1 F2 
Top-up and spill Little Gunbower Complex, Barapa Swamp, Reedy Lagoon, and the Little Reedy complex in autumn/winter. 	<ul style="list-style-type: none"> Support wetland vegetation growth, recruitment and restoration works following an extended drawdown phase (from summer 2024 - autumn 2025) in the Little Reedy complex. Promote growth of river red gums and understorey vegetation on the floodplain. Provide diverse feeding habitat for waterbirds. 	B1  V1 V2 

<p>Top-up Little Gunbower complex, Little Reedy complex, Barapa Swamp and Reedy Lagoon in spring/summer.</p> <p>Trigger – Waterbird breeding</p>	<ul style="list-style-type: none"> Maintain adequate water levels in breeding and feeding habitats to allow breeding waterbirds to successfully fledge their chicks. 	<p>B1 </p>
<p>Extend the duration of unregulated flooding in the lower forest wetlands and floodplain during winter/spring (ceasing delivery by November)</p>  <p>Trigger - Natural flooding that cannot be excluded from the Little Reedy complex</p>	<ul style="list-style-type: none"> Promote growth of river red gums and understorey vegetation on the floodplain. Provide diverse feeding and breeding habitat for waterbirds, small-bodied native fish, frogs and turtles in wetlands and the surrounding floodplain. 	<p>A1 </p> <p>B1 </p> <p>F1 F2 </p> <p>T1 </p> <p>V1 V2 </p>
<p>Winter/spring Autumn-winter fresh and top-up in Yarran Creek (variable flow rates and duration based on water levels levels in Gunbower Forest and flows in the Murray River and Gunbower Creek and water quality in Yarran Creek)</p>	<ul style="list-style-type: none"> Connect Gunbower Creek, Gunbower Forest and the Murray River through the Yarran Creek and/or Shillinglaws regulators to increase flowing habitat for the lateral movement of native fish enable the transfer of carbon and nutrients. Provide habitat for the survival and growth of large-bodied native fish 	<p>CN1 </p> <p>F1 F2 F3 </p>
<p>Gunbower Creek (targeting Cohuna Weir)</p>		
<p>Autumn/winter low flow (200 ML/day during July to August 2024 and April to June 2025)</p>	<ul style="list-style-type: none"> Maintain connectivity through the length of Gunbower Creek and between lagoons during the off-irrigation period and prevent sections drawing down to isolated pools. Provide access to food resources over the cooler months and reduce predation pressure on juvenile fish. 	<p>F3 </p>
<p>Spring/summer/autumn high flow (300-400 ML/ day during September to March)</p>	<ul style="list-style-type: none"> Maintain habitat and food resources for native fish and support breeding and larval survival (such as Murray cod) by minimising large variations in the water level during the irrigation season and achieving about 1.5 m depth in deeper pools and 30 cm depth in the shallow connecting littoral zone to maintain habitat. A greater area of habitat will be inundated at the upper 	<p>F3 </p>





	magnitude	
Year-round opportunistic fresh(es) (300-500 ML/day for one to four weeks).	<ul style="list-style-type: none"> Increase flowing habitat in Gunbower Creek to provide preferred flow conditions for native fish. 	F3 
Gunbower Creek (targeting Koondrook Weir)		
Spring/summer/autumn opportunistic fresh(es) (200-500 ML/day for one to four weeks, as required)	<ul style="list-style-type: none"> Promote the exchange of carbon between Gunbower Creek and the Murray River Provide a natural cue to attract native fish (such as Murray cod and golden perch in spring) to recolonise Gunbower Creek, maximising the effects of the fishways at Koondrook and Cohuna weirs 	CN1  F3 
Trigger-based spring/ summer fresh (50-300 ML/day as required during September to February)	<ul style="list-style-type: none"> Dilute low dissolved oxygen return flows from Gunbower Forest at Three Corner Hole to improve water quality (oxygen concentrations) in lower Gunbower Creek if required. 	WQ1 

Table 5.2.7 Potential environmental watering for the Gunbower Forest and Creek system under a range of planning scenarios

Planning scenario	Drought	Dry	Average	Wet
Expected conditions	<ul style="list-style-type: none"> Natural inflows into Gunbower Forest are unlikely. 	<ul style="list-style-type: none"> Natural inflows into Gunbower Forest are unlikely. Some runoff producing rainfall is expected, with inflows into storages unlikely to cause spills and unregulated flow 	<ul style="list-style-type: none"> Natural inflows into Gunbower Forest during winter/spring are possible and could result in inundation of low-lying creeks and wetlands. 	<ul style="list-style-type: none"> Overbank flows are likely to occur in winter and/or spring. High inflows into full storages in autumn, winter and/or spring 2024 will likely result in spilling events and unregulated flooding.
Gunbower Forest				
Potential environmental watering – tier 1 (high priorities)	<ul style="list-style-type: none"> Top-up and spill Little Gunbower complex and Barapa Swamp in spring Top-up Reedy Lagoon in spring in response to fish 			<ul style="list-style-type: none"> Extend the duration of unregulated flooding in the lower forest wetlands and floodplain.

	<p>surveys.</p> <ul style="list-style-type: none"> • Top-up Little Gunbower complex, Little Reedy complex, Barapa Swamp and Reedy Lagoon in spring/summer in response to bird breeding. • Top-up and spill Little Gunbower complex, Barapa Swamp, Reedy Lagoon, and the Little Reedy complex in autumn/winter. • Top-up Little Gunbower complex, Barapa Swamp and Reedy Lagoon in spring/summer. • Autumn-winter fresh and top-up in Yarran Creek. 	<ul style="list-style-type: none"> • Top-up Little Gunbower complex, Barapa Swamp and Reedy Lagoon and Little Reedy complex, in spring/summer. • Top-up and spill Little Gunbower complex, Barapa Swamp, Reedy Lagoon, and the Little Reedy complex in autumn/winter. • Winter/spring Autumn-winter fresh and top-up in Yarran Creek. 		
Potential environmental watering – tier 2 (additional priorities)	<ul style="list-style-type: none"> • N/A 			
Possible volume of water for the environment required to achieve objectives	<ul style="list-style-type: none"> • 25,000 ML 	<ul style="list-style-type: none"> • 25,000 ML 	<ul style="list-style-type: none"> • 25,000 ML 	<ul style="list-style-type: none"> • 34,400 ML
Gunbower Creek targeting Cohuna Weir				
Potential environmental watering – tier 1 (high priorities)	<ul style="list-style-type: none"> • Autumn/winter low flows • Spring/summer high flows • Spring/summer/autumn opportunistic freshes 			
Gunbower Creek targeting Koondrook Weir				
Potential environmental watering – tier 1 (high priorities)	<ul style="list-style-type: none"> • Spring/summer/autumn opportunistic freshes 	<ul style="list-style-type: none"> • Spring/summer/autumn opportunistic freshes • Trigger-based spring/summer fresh 		
Potential environmental watering – tier 2 (additional priorities)	<ul style="list-style-type: none"> • N/A 			
Possible volume of water for the environment required to achieve objectives	<ul style="list-style-type: none"> • 23,000 ML 	<ul style="list-style-type: none"> • 18,000 ML 	<ul style="list-style-type: none"> • 18,000 ML 	<ul style="list-style-type: none"> • 19,000 ML
Priority carryover requirements for 2025-26	<ul style="list-style-type: none"> • 24,000 ML 			