

## Environmental Watering Plan for the Lachlan Valley 2008/09

### Environmental water releases in 2007/08

Flow distribution rules of Lachlan Water Sharing Plan remained suspended for whole year. Therefore no environmental water was released from Wyangala Dam. The Merrimajeel and Muggabah Creeks received a 5,000 ML replenishment flow diverted from tributary flows in July - September 2007. Uncontrolled flows from local storm rains of about 7,000 ML below Brewster Weir were left in the river with some entering Great Cumbung Swamp.

### Current condition of water dependent assets

Asset <sup>1</sup>	Last watering <sup>2</sup>	Condition
Burrawang West Lagoon	12/2007	Good
Yarnel Lagoon	1/08	Good
Lake Brewster Inlet wetland <sup>3</sup>	N/A	N/A
Lake Brewster outlet wetland <sup>3</sup>	N/A	N/A
Booligal Wetland	2000	Moderate - good
Murrumbidgee Swamp	1998	Critical
Lake Ita <sup>5</sup>	1990	Moderate
Great Cumbung Swamp	2005 <sup>4</sup>	Poor - Critical
Other colonial waterbird breeding sites on distributary creeks (eg. Mutherumbung; Cuba Dam)	2005	Moderate

<sup>1</sup> Identified in Lachlan Water Sharing Plan, RiverBank Water Use Plan or Lake Brewster Water Use Plan

<sup>2</sup> By any means – natural or managed

<sup>3</sup> Under construction as part of Lake Brewster Water Efficiency Project

<sup>4</sup> Watering beyond that maintained by standard river operations

<sup>5</sup> Water cannot currently be delivered with current infrastructure

### Volumes of environmental water available

Account	Maximum limit (ML)	Available 1/7/08
Translucent dam	350,000	Rules-based
ECA	20,000	0
WQA	20,000	0
RiverBank AEWL <sup>1</sup>	10,891	38
Lake Brewster AEWL <sup>2</sup>	Min. 5,000 or 60% of water savings	0

<sup>1</sup> Includes Parks and Wildlife Group licences

<sup>2</sup> AEW licence not yet established

### Likely environmental watering scenarios

- Wyangala Dam is 10% capacity (121,000 ML) as at 14/7/08.
- Translucent dam releases occur from 15 May to 15 November when inflows to Wyangala Dam have exceeded 250,000 ML since 1 January, and subject to inflow triggers.
- As allocation plus carryover is less than 50% at 1 July ECA will not be available unless allocation plus carryover exceeds 75%.

- Translucent dam releases, ECA and WQA are not expected to become available while the Water Sharing Plan (WSP) is suspended. For WSP flow rules to be turned back on, it is likely that inflows to Wyangala Dam of more than 400,000 ML (about 38%) are required. Above average rainfall for 2-3 months is required for this scale of inflows.
- While the WSP remains suspended, increases to GS allocations may be made if Wyangala Dam exceeds about 24%, as occurred in 2005/06. If this occurs, there will be allocations to AEW licences.
- Dry conditions are favoured for Lachlan catchment during July- September.
- While the WSP remains suspended and in the absence of an established Environmental Water Advisory Group, tributary flows will be managed for the environment by DWE on advice from State Water and the Lachlan Customer Services Committee (CSC). DECC is a member of the CSC.
- Recommendations for July - September period are:
  - Currently, the first 57,000 ML of tributary flows will be used for essential supplies.
  - The next 25,000 are directed to the environment (Great Cumbung) with flows between 82-200,000 ML being shared (50:50) between general security access licences and the environment.
  - Beyond 200,000 flows will be diverted to Lake Brewster, depending on status of construction works
  - Lachlan CSC meets again 11 August 2008
- In summary:
  - Low probability of translucent flows from Wyangala Dam under WSP for period to August 2008
  - Low probability of any ECA water
  - Low probability of GS allocation and therefore any water available under adaptive environmental water licence
  - Low-moderate probability of tributary flows up to 82,000 ML
  - Any volumes of available adaptive environmental water are likely to be less than 1,000 ML.

## Objectives for environmental water use for 2008/09

### A. Under average to slightly wet conditions

1. To fill and retain water in Murrumbidgee Swamp for at least 6 months.

*Reason:* condition currently critical and declining. Flooding is essential to retain some of the river red gums alive and provide best chance of preventing loss of ecological character. Requires delivery of a replenishment flow (takes approximately 50 days) in Merrimajeel Creek and at least an additional 1,000 ML of environmental water. Liaise with Merrimajeel Muggabah Creeks Trust.

2. To retain the reintroduced population of the threatened purple-spotted gudgeon in Burrawang West Lagoon

*Reason:* DPI Fisheries reintroduced purple-spotted gudgeons to this site in 2006, with the aim that recruitment will spread the species further in the Lachlan River. RiverBank is supporting this reintroduction by supplying water when necessary to ensure permanent habitat. An approximate maximum of 150-200 ML of adaptive environmental water is likely to be required if there are no flows in Goobang or Yarrabandai Creeks and State Water restricts current flow access arrangements.

- To create 20 hectares of wetland by inundating Yarnel Lagoon during spring – early summer. Flooding is to stimulate frog breeding opportunities and to provide an opportunity for brolga breeding. Approximately 300 ML of adaptive environmental water are required to flood this wetland for 4-6 months.

*Reason: A benchmarking ecological study highlighted the potential for this wetland to contribute to frog diversity. A resident pair of brolgas, rare in this region of NSW and threatened at the State level, has bred previously when conditions were suitable. These conditions can now only be created by active management of water.*

## **B. Under wet to very wet conditions**

Above plus:

- To inundate all the common reed-beds and significant areas of fringing river red gum woodland in the Great Cumbung Swamp.

*Reason: The terminal Great Cumbung Swamp requires a minimum of 25,000 ML before any measurable ecological benefit occurs. Volumes in the order of 50,000 ML are required to inundate some river red gum woodland. River red gums are currently severely stressed or dead.*

- To maintain and allow to complete any colonial waterbird breeding event initiated by replenishment or environmental flows.

*Reason: Ibis (1,000s) and spoonbills (100s) bred in wetlands of Merrowie Creek during 2005/06 in response to delivery of a replenishment flow. Such unexpected breeding responses may become more frequent. The ECA was established under the WSP for this purpose. However, there will be no ECA water available until Wyangala nears full capacity.*

## **C. Under dry conditions**

Unlikely there will be any environmental water available for discretionary use. If some is available, likely to be used for objectives 2&3.

## **D. Other opportunities**

Negotiations are underway with other landholders for supply of adaptive environmental water to various wetlands in the Lower Lachlan. These are well advanced for lagoons on Lilydale near Booligal. If the arrangements are finalised and small volumes of water (<200 ML) become available, these lagoons will be supplied with water to deliver wetland habitat maintenance flows and to stimulate waterbird breeding opportunities.

*Reason: these small wetlands are strategically located such that they are readily watered, require small volumes and will act to provide seed sources (plants and animals) for wetlands further downstream on the main Lachlan River, Merrimajeel and Muggabah Creeks.*

## **Risks and mitigating strategies**

<b>Risk</b>	<b>Rating</b>	<b>Response</b>
Unpredictable weather – turns drier than expected	High (likely & major)	Review asset condition and future priorities for watering.
Unpredictable weather – turns wetter than expected	Medium (unlikely & major)	Additional wetting options possible – continually assess volumes available
Flow management is uncoordinated	Medium (possible & moderate)	Establish flow advisory group; early and regular communication with State Water and CSC

		Develop Implementation Manual for the delivery and accounting of ECA and WQA
Water use and works approvals not linked to licences	High (possible & major)	Confirm status with DWE; seek discretionary one-off approval if necessary
Estimated flow target volumes are substantially wrong	Medium (unlikely & moderate)	Monitor flow delivery daily and seek adjustments; revise targets for future attempts
Unforeseen physical impediments to flow delivery	Medium (rare & major)	Early communication with creek Trusts and State Water; alert DWE if illegal obstructions identified
Water use plan not amended in time to take advantage of other opportunities	Medium (possible & moderate)	Seek urgent approval from DWE
Insufficient water available to complete colonial waterbird breeding, if initiated	High (unlikely & severe)	Reserve 2,000 ML in storage; purchase GS allocation

## Monitoring, reporting and revising

**Monitoring** as per RiverBank monitoring plan for adaptive environmental water, and IMEF program for key wetland sites.

### Reporting to

- Director, Water for the Environment, DECC: monthly update on conditions (climate, available environmental water) and weekly update during flow delivery events.
- Environmental Water Advisory Group when formed: monthly update on conditions and weekly update during flow delivery events.
- Lachlan CMA: monthly update on conditions and weekly update during flow delivery events. To be provided via CMA representative on flow advisory group when formed.
- Lachlan Customer Services Committee – regular update at meetings.
- Broader community – updates in E-water Newsletter.

This plan is to be **revised** when conditions dictate. Triggers for revision will be sustained catchment or localised rainfall that produces significant flows into storages or in tributaries. If Wyangala remains below 20%, no revisions are expected. Above 20%, monthly revisions may occur. Good communication with State Water and local community representatives will help clarify the timing and scale of revision.

Primary responsibility for identifying and reporting opportunities for revisions to this plan rests with DECC Senior Wetlands and Rivers Conservation Officer.

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Consultation: State Water; Lachlan CMA; DWE

Date: 15 July 2008

Approved by: **Derek Rutherford**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Position: **Director, Water for the Environment, CCPPG**