

## Environmental Watering Plan for the Lachlan Valley 2009/10

### Environmental water releases in 2008/09

No water accrued to any environmental water accounts during 2008/09. Flow distribution rules of Lachlan Water Sharing Plan remained suspended for whole year. Therefore no environmental water was released from Wyangala Dam. There were also no effective opportunities for use of the small volumes of available adaptive environmental water.

### 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>4</sup>	N/A	N/A
Booligal Wetland	2000	Moderate - good
Murrumbidgee Swamp	1998	Critical
Lake Ita <sup>6</sup>	1990	Moderate
Great Cumbung Swamp	2005 <sup>5</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> Construction, as part of Lake Brewster Water Efficiency Project, near completion

<sup>4</sup> Under construction as part of lake Brewster Water Efficiency Project

<sup>5</sup> Watering beyond that maintained by standard river operations

<sup>6</sup> Water cannot currently be delivered with current infrastructure

### Volumes of environmental water available

Account	Maximum limit (ML)	Available 1/7/09
Translucent dam	350,000	Rules-based
ECA	20,000	0
WQA	20,000	0
RiverBank AEWL <sup>1</sup>	24,575 (expected to be registered by August 2009)	72 (14% of carryover from 2005 AWDs)
Commonwealth Holdings	66,183 (expected to be registered by August 2009)	30 (14% of carryover from 2005 AWDs)
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 6.1% capacity (74,848 ML) as at 30/6/09.
- 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 (over 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, the Lachlan Riverine Working Group (LRWG), State Water and Lachlan Customer Service Committee will provide advice to DECCW on the management of tributary flows for the environment. DECCW is a member of both the LCSC and the LRWG.
- Recommendations for July - September period are:
  - Currently, the first 43,000 ML of tributary flows will be used for essential supplies.
  - The next 43,000 to 77,000 ML received from tributary flows will be used to deliver stock and domestic flows to the distributary creeks. The order of deliver is outlined in the 2008/09 and 2009/10 Lachlan drought contingency plan.
  - If tributary flows are between 77,000 and 102,000 ML, flows will be directed for environmental purposes in the Lachlan River.
  - Tributary flows in excess of 102,000 ML will be diverted into Lake Brewster, however, the Lake Brewster Inflow wetland may be filled earlier to facilitate the establishment of wetland plants.
  - The order of priority of the following triggers may change depending on the total volume, flow rate and timing. For example, tributary flows in excess of a flow rate of about 1000 ML/D at Lake Cargelligo Weir can not be diverted into Lake Cargelligo and may be used for other purposes including flows to the environment.
  - In the absence of substantial tributary flows, the Lake Cargelligo storage will remain off-line from the Lachlan system.
- In summary:
  - High probability that Critical Water Planning conditions will remain in place
  - Low probability of translucent flows from Wyangala Dam under WSP for period to August 2009
  - 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 2009/10

### 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.*

3. 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:

4. 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.*

5. 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

Risk	Rating	Response
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)	LRWG has been established and regular communication is maintained 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 licencing; 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 licencing if illegal obstructions identified
Water use plan not amended in time to take advantage of other opportunities	Medium (possible & moderate)	Seek urgent approval from appropriate agency
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, DECCW: monthly updates on conditions (climate, available environmental water) and weekly updates during flow delivery events.
- LRWG will be provided with monthly updates on conditions and weekly updates during flow delivery events.
- Lachlan CMA, via the LRWG, will receive monthly updates on conditions and weekly updates during flow delivery events.
- Lachlan Customer Services Committee – regular updates at meetings.
- Broader community – updates in E-water Newsletter.

<http://www.environment.nsw.gov.au/environmentalwater/newsletters.htm>

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 DECCW Senior Wetlands and Rivers Conservation Officer.

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Prepared by: Lisa Thurtell; Michael Maher

Position: Riverine Consultant for LCMA; Senior Wetlands and Rivers Conservation Officer, Water for the Environment Branch, DECC

Consultation: LRWG

Date: 15 July 2009

Approved by: **Derek Rutherford**

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

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