Report on environmental water use – Commonwealth Environmental Water Holder

The Commonwealth Environmental Water Holder's annual report on environmental water use (Schedule 12, Item 9.3)

Reporting context

The additional water made available for the environment under the Basin Plan is aiming to: restore and improve the resilience of rivers, wetlands and floodplains; connect rivers to their floodplains and the sea; improve the health of fish, birds and vegetation populations; and keep water fit for environmental use.

In 2013-14, environmental water was delivered for the first time to meet Basin scale, or whole-of-Basin, priorities. This is a major change to the way environmental water is used in the Basin – it has increased the emphasis on managing the Basin as one system.

The purpose of this report is to monitor how much water was delivered to the environment and for what purpose This report is a requirement of Chapter 13 of the Basin Plan and relates to Item 9.3 of Schedule 12.

This report covers:

- held environment water (HEW) HEW in regulated systems;
- where possible, Planned Environmental Water (PEW) in regulated systems (e.g., Environmental Contingency Allowance in Lachlan, Murrumbidgee and similar PEW accounts in Macquarie, Gwydir);
- where possible,HEW or PEW in unregulated systems (e.g. embargoed flow event).

Indicators for measuring success

Indicator 9.3 reports on the purpose and consequences of environmental water use.

This indicator incorporates several elements:

- Purpose of environmental watering (**Indicator 9.3.1**)
- How watering aligned with the Basin-wide Environmental Watering Priorities (**Indicator 9.3.2**)
- How much environmental water was used to meet the purpose (**Indicator 9.3.3**)
- Consequences of environmental use of water (**Indicator 9.3.4**)

Indicator 9.3: Purpose and consequences of environmental water use

Response

Refer to the Statement of Assurance for CEWH reporting on the alignment of environmental water use with the 2013-14 Basin-wide Annual Environmental Watering Priorities.

a. Geographic identifier (refer note 1)	b. Basin Plan Region (refer note 2)	c. Purpose(s) (refer note 3)	d. Volume used (ML) (refer note 7)	e. Time period (refer note 8)	f. Availability of map and/or hydrograph (refer note 9)	g. Additional comments (optional - refer note 10)
Lower Balonne River floodplain	QLD Condamine-Balonne	Connectivity, ecosystem; ecosystem resilience	22,282	2/4 – 13/4/2014	Yes	Commonwealth environmental water accounted at St George in early April continued to flow through the system into May 2014
Barwon-Darling	Barwon-Darling	Ecosystem	13,009	July-August (Barwon	Not applicable	Action supported the 2013-14 annual priority to

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river channel (Mungindi to Menindee Lakes)		resilience		River) March-April 2014 (Barwon and Darling Rivers)		'improve habitat and provide opportunities for migration and reproduction of native fish in the Barwon–Darling River system by increasing flow variability and hydrological connectivity'.
Lower Moonie River and fringing wetlands	QLD Moonie	Ecosystem diversity	1,415 CEWH HEW	25/2-28/2; 2/3-4/3; 26/3-9/4	Not Applicable	
NSW Lower Warrego River at Toorale	NSW Intersecting Streams	Connectivity	506 ML	March 2014	Not Applicable	
Macquarie Marshes Nature Reserve and Core Wetlands	NSW Macquarie-Castlereagh	Ecosystem resilience	54,659 NSW HEW; 10,000 CEWH HEW	15/8-3/11	Partial	The water use supported the 2013-14 annual priority 'improve ecosystem resilience amongst wetland vegetation communities in the Macquarie Marshes including Ramsar listed sites'. A hydrograph of water entering the Macquarie Marshes was provided by NSW OEH.
Lachlan River system, including floodplain	NSW Lachlan	Ecosystem resilience	23,017 CEWH HEW	1/7-18/3	Yes	Hydrograph: • Lachlan River @ Hillston Weir 1/6/13 – 31/7/13 • Lachlan River @ Whealbah 1/6/13 – 31/7/13 • Lachlan River @ Booligal 1/6/13 – 31/7/13 • Lachlan River @ Corrong 1/6/13 – 31/7/13
Great Darling Anabranch	NSW Lower Darling	Ecosystem resilience	47,000 CEWH HEW	16/9-9/12	No	.
Colligen-Neimur Creek System	NSW Murray	Ecosystem resilience	5,759 CEWH HEW	7/2-15/3	No	The overarching purpose of the water use in the NSW Murray Region is to protect, maintain and, in some cases, improve the ecological health and resilience of the River Murray System. This is expected to provide opportunities for supporting the recruitment and improving the condition of vegetation, waterbirds, fish and other biota and will support hydrological connectivity and salt and nutrient export from the River Murray system.
Murray-River system, including floodplain	NSW Murray	Ecosystem resilience	55,000 TLM; 27,700 NSW; 10,000 VIC; 64,200 Other; 244,250 CEWH HEW	24/7-28/2	Yes	
Tuppal Creek	NSW Murray	Ecosystem resilience	1,975 NSW; 2,000 CEWH HEW	8/10-6/12	No	
Tuppal Creek	NSW Murray	Ecosystem resilience	750 NSW; 562 CEWH HEW	26/3-30/4	No	
Yallakool Creek	NSW Murray	Ecosystem resilience	8,494 CEWH HEW	30/9-7/2	No	
Lower Murrumbidgee floodplain (Uara Creek through Fingerboards	NSW Murrumbidgee	Ecosystem resilience	6,676 NSW; 15,174 CEWH HEW; 800 Supplementary CEW	3/3-30/6	No	

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and into Yanga Lake)						
Lower Murrumbidgee floodplain (Fiddlers Creek to Yanga Nature Reserve)	NSW Murrumbidgee	Population resilience	28,550 NSW HEW; 10,000 CEWH HEW; 1,600 CEWH supplementary	20/3-25/6	No	
Nimmie-Caira floodways	NSW Murrumbidgee	Population resilience	146 NSW HEW; 4,059 CEWH HEW; 6,967 CEWH supplementary	26/8-6/10	No	
North Redbank System	NSW Murrumbidgee	Ecosystem resilience	12,825 NSW; 50,000 CEWH	14/10-30/1	No	
Lakes, wetlands and waterways west of North Redbank Channel (Western Lakes)	NSW Murrumbidgee	Population resilience	4,850 NSW HEW; 3,000 CEWH HEW	11/10-2/12	No	
Lakes, wetlands and waterways west of North Redbank Channel (Western Lakes)	NSW Murrumbidgee	Population resilience	3,860 NSW HEW; 10,000 CEWH	31/3-21/5	No	
Yanga National Park	NSW Murrumbidgee	Population resilience	60,375 NSW HEW; 35,000 CEWH HEW	1/11-18/1	No	
Border River system including floodplain	NSW Border Rivers	Connectivity	4,000 NSW, 4000 CEWH	16/08-24/08	Yes	
Dumaresq-Macintyre River channel	QLD Border Rivers	Ecosystem function	92 ML	30/3 & 1/4/2014	Not applicable	
Mallowa Creek and wetlands	NSW Gwydir	Population resilience	20,000 CEWH HEW	25/9-1/3	Yes	
Mehi River	NSW Gwydir	Population resilience	8,420 CEWH HEW	25/10-10/11	Yes	
Carole – Gil Gil Creek	NSW Gwydir	Population resilience	3,915 CEWH HEW	25/10-18/11	Yes	
Gunbower Creek	VIC Murray	Fish	19,028 CEWH HEW	7/7-30/6	No	

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Hattah Lakes	VIC Murray	Population resilience	4,633.1 CEWH HEW, VIC 25,348.7	28/4-30/6	No	
Goulburn River	VIC Goulburn-Broken	Population resilience	215,000 CEWH HEW	2/7 – 30/6	Yes	
Broken River and Upper Broken Creek	VIC Goulburn-Broken	Population resilience	121 CEWH HEW	1/8-30/5	No	
Lower Broken Creek & fringing wetlands	VIC Goulburn-Broken	Population resilience	38,593.7 CEWH HEW	3/8-15/5	No	
Loddon River System	VIC Murray	Population resilience	2,774.5 CEWH HEW VIC 4,112	3/9-20/11	No	
Campaspe River System	VIC Murray	Population resilience	6,517.4 CEWH HEW (return flows 6,069) VIC 4,396 TLM 1,768	10/09 – 18/09	No	
Ovens Catchment	VIC Murray	Population resilience	70 CEWH HEW (in addition to 4.8 GL of bulk release drawdown water provided by Goulburn-Murray Water)	23/04 – 06/05	No	
Mallee Wetland Sites	VIC Murray	Population resilience	2,666.83 CEWH HEW	25/9-30/6	No	
Coorong, Lower Lakes and Murray Mouth	SA Murray	Population resilience Vegetation	578,228 ML (Includes 374,167 MLof return flows)	2013-14	No	This is the total volume delivered to the CLLMM through the coordination of watering actions across the southern connected basin and includes both direct transfers to SA and return flows from upstream watering actions.
Murray River from Wentworth to Lower Lakes (Locks 8 and 9)	NSW Murray	Population resilience	216 CEWH HEW	10/7-30/6	Yes	
Lower Murray Wetlands (Maize Island, Weila, Carpark Lagoons, Morgan Conservation Park and Hogwash Bend)	SA Murray	Ecosystem resilience	1,019 CEWH HEW	3/10-30/6	Yes	
Lower Murray Wetlands	SA Murray	Ecosystem resilience	183 CEWH HEW	5/11-30/6	Yes	

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(Johnson's Waterhole, Clark's Floodplain, Thiele's Flat, Loxton Reserve, Rilli Reach, Ramco Lagoon)						

NOTES

Note 1 - Geographic identifier could mean river reach (i.e. between model nodes) or site/asset name.

Where possible, spatial data should be provided to locate each geographic identifier. The format of the spatial data has not yet been specified, but may include shapefiles, MapInfo tab files and/or point coordinates."

Note 2 - The catchment(s) that contain the geographic identifier are requested to allow spatial representation of environmental watering use

Note 3 - Select the purpose(s) for environmental water use at the geographic identifier

Note 4 - If environmental water use at the geographic identifier had more than two purposes, list the other purposes in the Additional Comments field

Note 5 - For any watering actions that are undertaken not in accordance with the Basin annual environmental watering priorities, a statement of reason must be provided to the MDBA (via the separate Statement of Assurance self-assessment checklist template)

Note 6 - Select the relevant priority corresponding to environmental water use. If environmental water use at the geographic identifier achieved more than one priority, list the other priorities in the Additional Comments field.

2013-14 Annual Watering Priorities
1. Northern Basin wetlands: Improve the resilience of colonial waterbird populations by supporting breeding events and improving breeding habitat in the Northern Basin wetlands.
2. Gwydir wetlands: Improve the condition and maintain the extent of wetland vegetation communities in the Gwydir wetlands (including Ramsar sites) by restoring hydrological connectivity and a flow regime that meets ecological requirements.
3. Macquarie Marshes: Improve ecosystem resilience amongst wetland vegetation communities in the Macquarie Marshes including Ramsar listed sites.
4. Lower Lachlan wetlands: Improve ecosystem resilience amongst wetland vegetation communities in the lower Lachlan wetlands
5. Mid-Murrumbidgee wetlands: Improve the condition of wetland vegetation communities in the mid-Murrumbidgee wetlands through a winter or spring fresh.
6. Lower Murray River system: Improve vegetation condition in wetlands and floodplains and provide cues for native fish recruitment and movement in the lower Murray River system by enhancing in-stream flow variability.
7. Barwon-Darling River: Improve habitat and provide opportunities for migration and reproduction of native fish in the Barwon-Darling River system by increasing flow variability and hydrological connectivity.
8. Lower Goulburn River: Improve habitat and provide opportunities for migration and reproduction of native fish in the lower Goulburn River through re-instating a variable flow regime which includes a large 'in-channel' spring/summer fresh.
9. Mid-Murray River: Improve habitat and provide opportunities for migration and reproduction of native fish in the mid-Murray River, including the Edward-Wakool and other smaller anabranches, distributary creeks and low-lying wetlands throughout the region.
10. Coorong, Lower Lakes and Murray Mouth: Facilitate Ruppia recovery by ensuring appropriate flows into the Coorong; and maintain the connection between the Lower Lakes to improve the water quality in Lake Albert.

Note 7 - Total volume used to achieve the specified purpose(s) at the geographic identifier. May be reported per entitlement holder if desired.

Note 8 - Time period during the year when environmental water use occurred. May be single date or period(s)

Note 9 - This reportable property is designed to capture evidence of the consequences of the environmental water use (where possible). This evidence may come in the form of a map (i.e. of inundation extent) and/or hydrograph (observed or modelled) where relevant and able to be generated. This data will support case study narrative reporting on environmental water use.

This field is intended to identify where inundation maps or hydrograph data can be generated and supplied."

Note 10 - This simply provides a mechanism to capture any additional relevant information that may further explain or qualify other responses.