



INLAND RIVERS NETWORK INVESTIGATION:

Alleged Environmental Water Theft in the Macquarie Marshes

Environmentalists are gravely concerned that water set aside to secure the future of the Macquarie Marshes and the wildlife that depends on it has been stolen for agricultural use.

In 2005 most of the water in the Macquarie Valley was diverted and extracted for cotton irrigation. When the small amount of water left for the environment was released to wet a tiny area of the internationally significant Macquarie Marshes at the end of the year, evidence strongly indicates a small number of landholders siphoned off some of it for their own use.

By the time the remaining environmental water reached the parched Marshes, the quantity was significantly diminished, denying the wetlands the water they so desperately needed. River red gums died and bird breeding failed last summer because there was not enough water.

International Wetland Obligations

Australia signed the Ramsar Convention more than 30 years ago. However to date the Commonwealth Government, as signatory to the Convention, and the NSW Government have failed to fulfil most of their significant obligations to protect the highly significant Macquarie Marshes and maintain its ecological character. Under the Convention signatories are to identify and take action on issues that require urgent attention. However to date the Commonwealth has failed to provide any water to the wetlands and the current condition of the wetlands demonstrates that NSW has also provided insufficient water.

The governments have also failed to tackle floodplain development in and above the Marshes, which has severed important parts of the floodplain and wetlands off from the system and diverted water from the parched wetlands.

National Plan for Water Security

The Federal Government recently announced a \$10 billion National Plan for Water Security, which included \$3 billion to address overallocation. If this plan proceeds it will be the key program for addressing the major problems facing our internationally important wetlands and protecting them into the future. Yet despite its relevance, there has been no specific mention of wetlands or delivering flows to meet Ramsar commitments and return them to health. The

Plan could enable the Federal Government to protect these wetlands for future generations. It is a significant opportunity that must be embraced.

Significance of the Macquarie Marshes

The Macquarie Marshes are “*probably the most important site for the breeding of colonially nesting waterbirds in Australia, and colonies in the Marshes are among the largest and most diverse in NSW*” (Kingsford and Auld 2005). The Marshes once supported 20 million birds that bred every year, and the wetlands provide a major drought refuge for waterbirds and other wildlife. It also has the largest river redgum woodlands and reed beds in northern NSW. For these reasons the Marshes have been listed as an internationally significant wetland under the Ramsar Convention.

However “*there has been a significant long-term decline in river flows as a result of river regulation and subsequent diversions upstream. There are now fewer waterbirds, and fewer species of waterbird, than ever before*” (State of the Environment 2006).

It is estimated that at least 40-50% of the wetlands have already been lost, and what is left is sick and dying. Around 2,000 hectares of river redgums are dead or dying due to lack of water. Overall less than 10% of the original wetland is considered healthy. The lack of water has led to the longest recorded period without a colonial bird breeding event – there has been no event since 2000.

Average figures suggest that 22–33% of flows to the Marshes have been lost, but in a highly variable system this has meant that in some years 80% of water is taken for extraction, leaving the Marshes under harsh ‘artificial drought’ conditions for many years between big floods.

Existing environmental flows for the Macquarie Marshes

Currently the Macquarie Marshes has an allocation of 160,000 megalitres (ML) that is held in Burrendong Dam. This is ‘general security’ water, which means the Marshes only receive that amount of water in about 50% of years. Current estimates are that the Marshes need almost twice that – around 300,000ML of water will mean that in 50% of years they will receive about 150,000ML.

This volume is a negotiated one and is required to provide a core of the Marshes with a moderate chance of survival. It is not anticipated that the entire Marshes will be returned to health even with this improved water entitlement.

Recommendations

1. That the NSW and Commonwealth Governments instigate measures to stop the illegal draining of rivers and floodplains and ensure environmental water and Ramsar wetlands are afforded full protection.
2. That the NSW and Commonwealth Governments develop targets and timelines to urgently return water to iconic wetlands such as the Macquarie Marshes through the purchase of water entitlements from willing sellers to allow the wetlands to survive into the future.
3. That the Commonwealth Government ensures the National Plan for Water Security has the capacity to protect environmental water entitlements and regulate all water diversion activities and development, including floodplain harvesting.

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Evidence of water theft

Investigations have revealed a range of evidence that strongly indicates some environmental water has been illegally taken:

1. *Photos*

Officers from the Department of Environment and Conservation flew over the Marshes on 18 November and 8 December 2005 to monitor the spread of the environmental water in the wetland. They took a range of photos during these flights which indicated that water specifically released for the benefit of the environment was being diverted by landholders above and in the Marshes. They saw banks and water diversion channels cut into the floodplain and knew the water was part of the environmental release because it was tannin stained from passing through the wetland.

2. *Freedom of Information (FOI) requests*

Following this several FOI requests were made to the NSW Department of Natural Resources and State Water to determine whether or not this water was indeed stolen.

Of the information provided there is strong evidence to indicate that this water was not ordered by the landholders, nor that any approvals existed for the works in question (see some FOI information attached in Appendix 2).

Even if the dams, banks and channels were authorised and the owner had a water licence, it is still illegal to take environmental water. A number of legal questions arise from this event, including: whether the water was ordered through a valid water licence or was taken illegally; whether the channels and levee banks were authorised or were also illegal; and whether these works were being used legally. Taking water contrary to a water access licence is a

criminal offence. Use of a work in breach of its approval conditions is also illegal.

It is worth noting that water licences are usually for taking water directly from the river channel, and in many of these cases the water was diverted from a wetland and not from the river channel, so it is highly unlikely the extraction was legal.

3. Title searches

Title searches have been conducted to confirm certain information.

4. Corroboration of evidence from local landholders and residents

Local knowledge has informed the FOI request and title search and assisted in information on the location of the potential offences and in clarifying local rules and water management.¹

A chronology of events is contained in Appendix 1.

Cases of alleged environmental water theft

A number of photographs indicated landholders were diverting environmental water. From the photos three particular cases were selected due to their particularly serious nature and the quality of the evidence available.

Draining alleged environmental water from a Ramsar wetland - Case A

Water is being diverted from a privately owned Ramsar wetland to another property via a long channel with banks on 18 November 2005 (photo 11 – there was also a photo taken on 8 December).

The FOI searches have revealed that no water was ordered for the property or in the area throughout the time of the environmental water release. Landholders have stated that no licences can be held on the nearby watercourse, and no licences exist to take water from a wetland.

Current information indicates that the channel extends some way, filling several dams and probably flooding land. It has been stated that the channel has a gate at the wetland end to ensure that no water can flow out of the channel and return to the wetland.

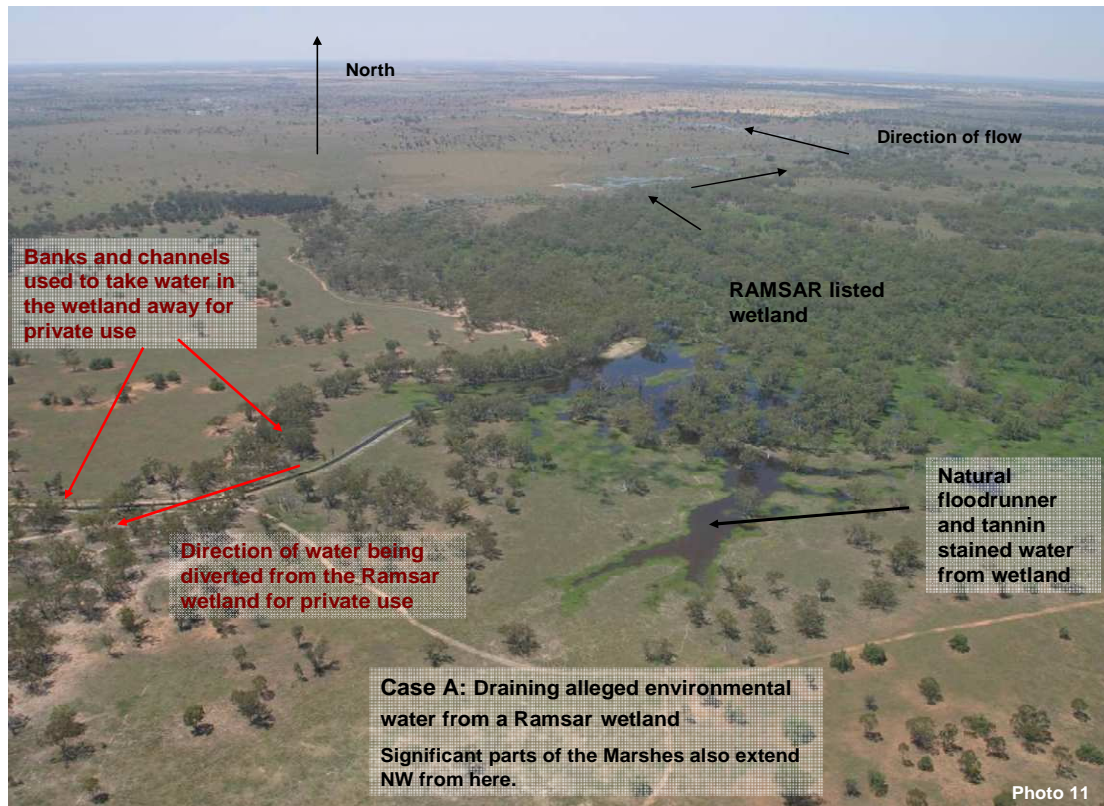
Further, no information was provided in the FOI that indicated that the channel was licensed.

As the wetland is Ramsar listed there are obligations to refer developments that have a significant impact on the wetland to the Commonwealth

¹ All personal assertions and statements have currently has been provided as pers comm. and have not been formalised as a statutory declaration as yet.

Department of Environment and Heritage. However a search of EPBC referrals and information from the Department indicated that the channels taking water from the Ramsar wetland are not approved under the Federal *Environmental Protection and Biodiversity Conservation Act 1999* despite their clear impact on the Ramsar site.

This evidence indicates that this water is almost certain to be environmental water and that the works are also unauthorised. Theft of environmental water has a significant impact on the health of this internationally significant Ramsar wetland. The Commonwealth has a clear responsibility to protect internationally significant wetlands from issues such as water theft.



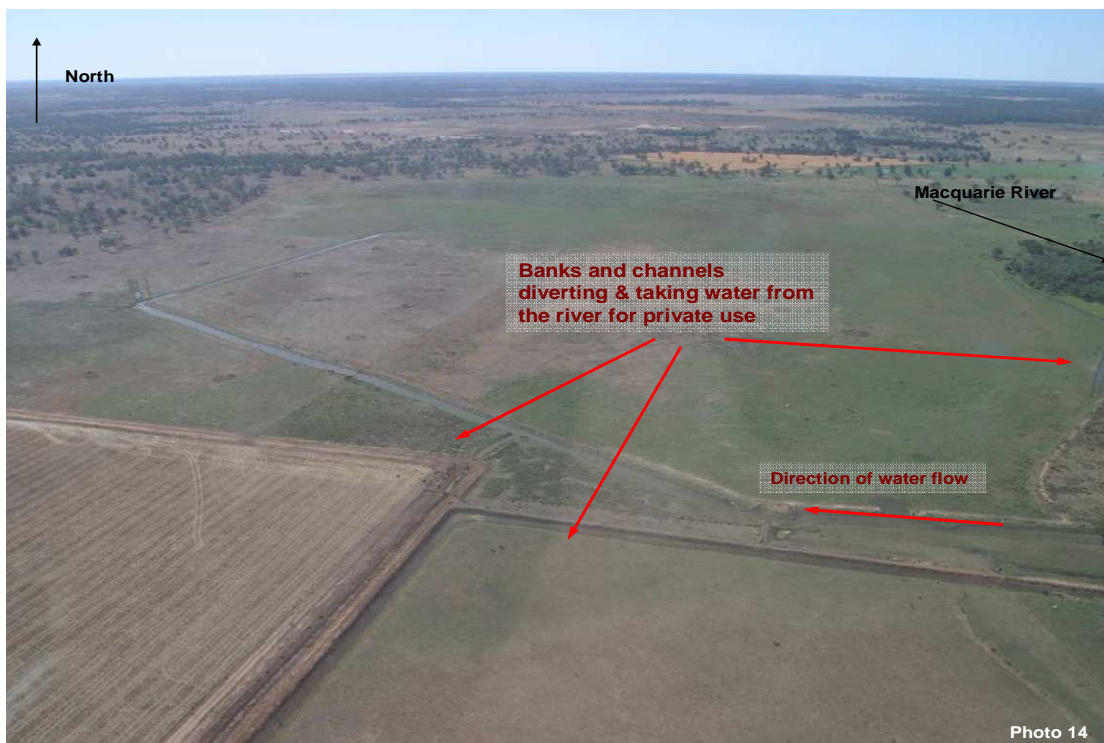
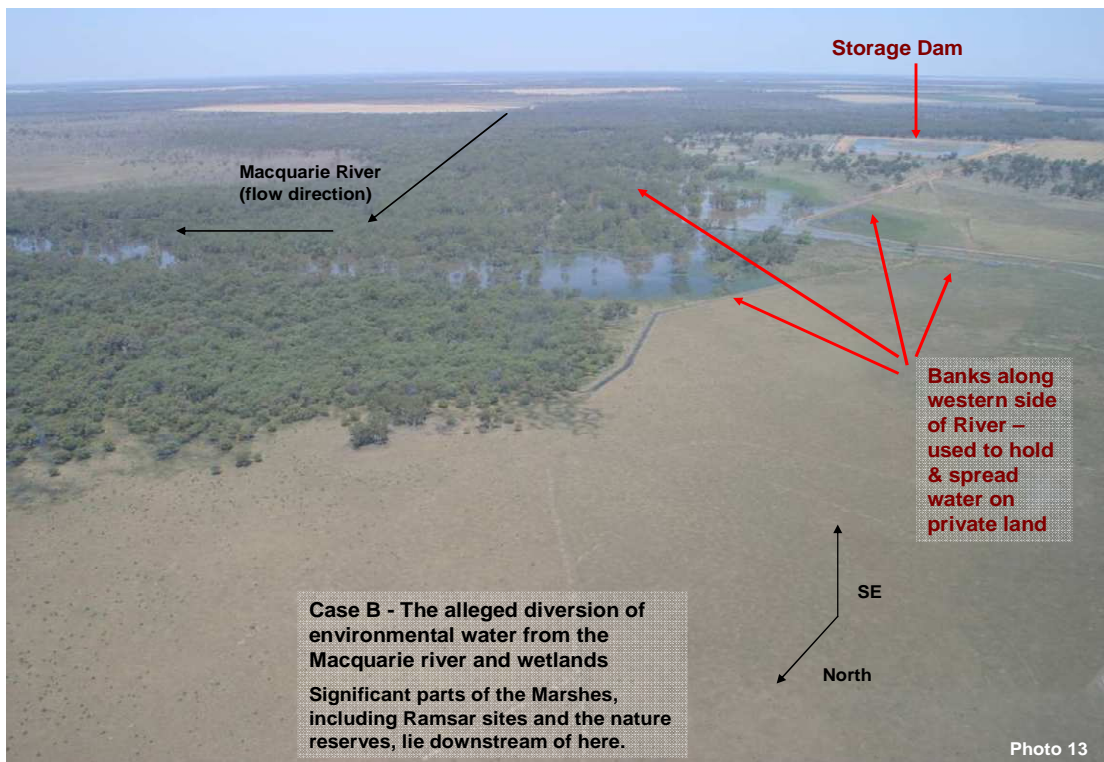
The alleged diversion of environmental water from the river and wetlands through numerous channels, onto paddocks and into a storage dam - Case B

These photos show water being diverted from the Macquarie River on 18 November and possibly 8 December (photos 13 & 14).

Water is being funnelled out of the river and off the wetlands into channels. Banks on the western side of the river are being used to hold and divert the water from the river upstream onto private land for pasture or crops.

The FOI information stated that only 45ML of water was potentially ordered by the suspected property owner at the time that the photos were taken (see Appendix 2). It is unclear whether this is the water shown in the photographs but it is highly unlikely as the water order and licence is likely to have been

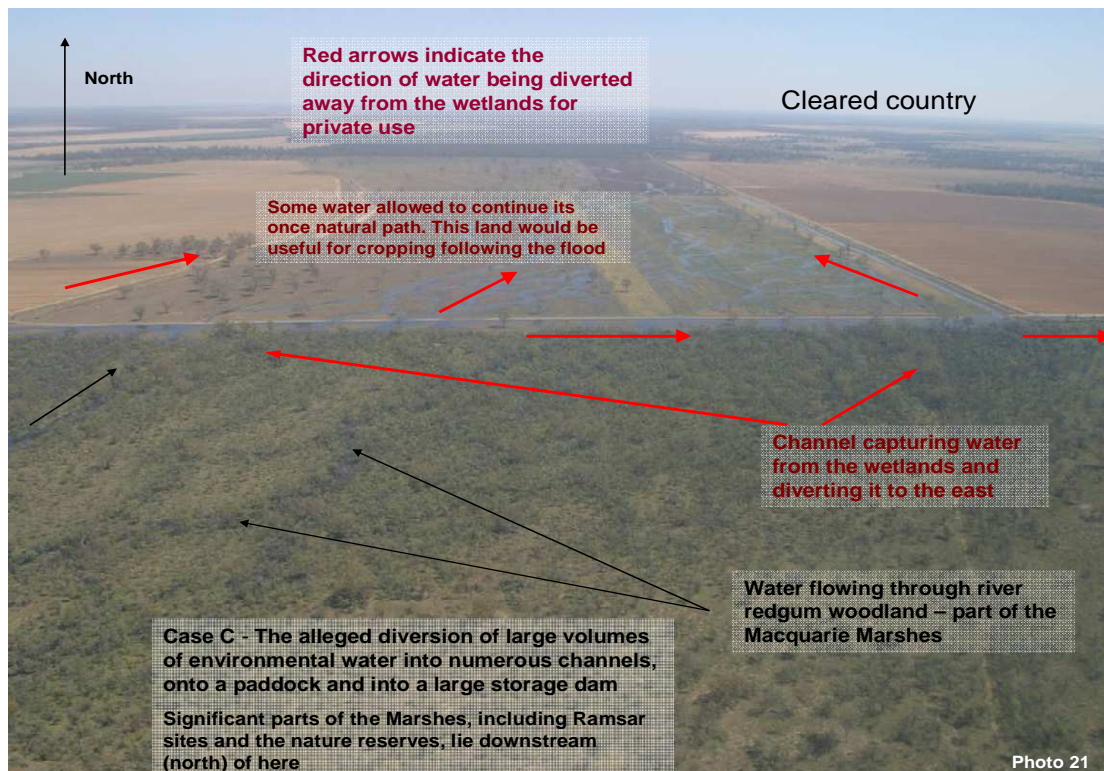
attached to a pump directly on the river which would have pumped the water directly from the river into a storage, and would not be flowing in channels connected directly to the river. The tannin stained colour of the water also indicates that it had been recently taken from the river or wetland.



The alleged diversion of large volumes of environmental water into numerous channels, onto a paddock and into a large storage dam - Case C

These photos show water flowing from a river red gum forest and wetland onto cleared country and then being diverted into several large channels and a large storage dam (photos 21, 24 & 25).

Current evidence of water orders from State Water indicates that it is highly unlikely that water was ordered for this property before or on 18 November when the photos were taken. It appears that approximately 45ML of water was ordered on 13 and 14 November but from a river which is a significant distance away from the property (see Appendix 3). It is assumed that if that water was indeed for the property in question the water would have been ordered and delivered down a closer section of river². It is highly unlikely that this water was ordered as much of it had flowed directly from a floodway (also evidenced by the tannin stained colour that water gets from passing through a wetland) and water can only be ordered from a regulated river channel.



The FOI evidence did not contain any indication that the channels, banks and dams in question were licensed so it remains unclear whether these works were licensed.

The cleared country once formed the heart of a significant river red gum forest in a key floodway. It is uncertain whether there was approval for clearing the large swaths of these forest and floodway areas which have significant environmental value as key elements within the wetlands.

² This is possible to do in a regulated system



Conclusions

Even though there was very little water available for the environment the decision was made to release it to try to keep a core of the wetlands alive. There was only enough water to wet core areas when combined with natural inflow and rain in the Marshes.

If this water had not been diverted it would have spread through the wetlands and Ramsar sites in the Marshes, improving the health of the red gums, vegetation, fish and birds, helping them survive until the next flow of environmental water. Some of it may later have re-entered the river, improving river health downstream.

In NSW there are three offences under the *Water Management Act 2000* that are relevant to the theft of environmental flows:

- It is illegal to take environmental water for private use because it is unlawful to take water without an access licence or contrary to that licence, and no licence can permit the diversion of environmental water.
- It is unlawful to construct a work without approval or use it contrary to that approval.
- It is also illegal to use water without or in breach of a water use approval.

Taking this water has serious implications for the health of the Macquarie Marshes, with river red gums dying and bird breeding failing last summer because there was not enough water for the environment.

Despite this evidence, the NSW Government seems uninterested in the impact of some of these works. The works involved in Case B were recently identified in the Macquarie River (Narromine to Oxley Station) Floodplain Management Plan, released in draft in late 2006, as works to be licensed.

The Plan recognises that these works divert unmeasured water from the river, yet it seeks to licence these works as works that are used to protect land from flooding ('flood control works'). This is inappropriate and unacceptable given the impact they have on environmental flows and the fact that the Plan should only have the power to licence works for flood control rather than water extraction.

If the water legislation is not enforced and adequate action taken to ensure compliance, this will happen every time environmental water is released for the Macquarie Marshes.

Anecdotal evidence suggests similar situations have arisen in the Lachlan Valley, the Murrumbidgee and during releases of environmental water in the Gwydir Valley.

Until this form of water extraction and diversion (floodplain harvesting) is regulated and sustainably managed, the small amount of water now available for the rivers and wetlands will be at risk and is likely to be stolen.

What needs to be done

Where environmental water has been stolen, the NSW Government must take action. The Commonwealth Government must also act where Ramsar wetlands or Commonwealth environmental water is involved. A properly resourced compliance team is needed. Action such as legal proceedings and/or the assessment and removal of offending structures should be considered. Such offences should be remedied through the return of the water to the environmental water account and the removal or modification of the offending channels and levee banks.

The Commonwealth Government must ensure the National Plan for Water Security has the capacity to safeguard Ramsar wetlands and protect environmental water from illegal diversion. Enforcement provisions are needed that give the Commonwealth the necessary powers to protect its assets and effectively manage floodplain development and extraction.

A broad statewide audit of water diversion works on floodplains and an assessment of their environmental impact is required. This should be followed by the removal and/or modification of works that steal or interfere with the delivery of environmental water.

The NSW Government, and potentially the Federal Government, are responsible for articulating to the public how environmental water will be more effectively protected under the new planning and property rights regime. Environmental water cannot be provided with the adequate security or property rights given to it by water legislation in NSW until floodplain harvesting is fully regulated. Similarly, environmental outcomes and environmental water security as required under the NWI will not be met until environmental water is adequately protected.

APPENDIX 1: Chronology of alleged water theft in the Marshes

25 October 2005 – State Water release of environmental water began down the Macquarie River from Burrendong Dam

2 November – First environmental flows arrive at a weir upstream of the Marshes

13 November - 45 megalitres of water was ordered that may have connections with Case B.

13 and 14 November - 45 megalitres of water was ordered that was possibly connected with Case C.

18 November – Officers from the Department of Environment and Conservation flew over the Marshes to monitor the spread of the environmental water and took photographs of water being diverted from wetlands into channels, farm dams and water storages, and onto paddocks

8 December – Again officers from the Department of Environment and Conservation flew over the Marshes to monitor the spread of the environmental water and took photographs of water being diverted from wetlands into channels, farm dams and water storages, and onto paddocks

25 December – Release of environmental flows from Burrendong dam finishes

2 January 2006 – The last environmental flow passes the weir and flows into the wetlands

REFERENCES

Beeton RJS (Bob), Buckley Kristal I, Jones Gary J, Morgan Denise, Reichelt Russell E, Trewin Dennis (2006) *Australia State of the Environment*, Independent report to the Australian Government Minister for the Environment and Heritage, 2006 Australian State of the Environment Committee

Kingsford RT and Auld K (2005) "Waterbird breeding and environmental flow management in the Macquarie Marshes, arid Australia", *River Res. Applic.* **21**: 187-200

APPENDIX 2: FOI information on water ordered and released

Order & Usages Report from WMAWAS DL on 22.08.2006.							
Downstream of Marebone Weir (01.10.2005 to 10.01.2006)							
River Section	Licence Category	Licence	Licence Status	Work Approv	Meter Read	Usage Date	Orders Usages
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				30-Jun-06	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	DOMESTIC AND STOCK				14-Nov-05	13-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				14-Nov-05	12-Nov-05	200 200
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				14-Nov-05	13-Nov-05	100 42
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				30-Jun-06	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				14-Nov-05	13-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				30-Jun-06	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				30-Jun-06	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				30-Jun-06	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				15-Nov-05	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	DOMESTIC AND STOCK [STOCK]				15-Nov-05	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				15-Nov-05	14-Nov-05	0 3
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				15-Nov-05	13-Nov-05	75 59
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				15-Nov-05	14-Nov-05	37.5 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				21-Dec-05	20-Dec-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				26-Dec-05	25-Dec-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (HIGH SECURITY)				15-Nov-05	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (HIGH SECURITY)				21-Dec-05	20-Dec-05	0 91
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (HIGH SECURITY)				26-Dec-05	21-Dec-05	60 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (HIGH SECURITY)				26-Dec-05	22-Dec-05	31 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				15-Nov-05	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				21-Dec-05	20-Dec-05	0 135
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				26-Dec-05	22-Dec-05	29 29
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				26-Dec-05	23-Dec-05	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				26-Dec-05	24-Dec-05	60 43
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	27-Dec-05	40 40
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	28-Dec-05	40 40
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	30-Dec-05	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	31-Dec-05	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	1-Jan-06	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	2-Jan-06	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	7-Jan-06	40 40
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	8-Jan-06	40 40
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	9-Jan-06	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				3-Feb-06	10-Jan-06	60 60
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				15-Nov-05	14-Nov-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				21-Dec-05	20-Dec-05	0 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				26-Dec-05	25-Dec-05	0 0
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				14-Nov-05	13-Nov-05	100 177
Marebone Weir To Oxley (Gs421022)	SUPPLEMENTARY WATER				21-Dec-05	14-Nov-05	50 0
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				14-Nov-05	13-Nov-05	0 3
Marebone Weir To Oxley (Gs421022)	REGULATED RIVER (GENERAL SECURITY)				21-Dec-05	23-Nov-05	50 50

APPENDIX 3: Water potentially ordered in Cases B and C



Orders - Section Daily Totals Report

Date Created 15-Aug-2006 11:12 AM
 User MCPATTERSON
 Report Ref WaSetOnls.rpt

Catchment Name MACQUARIE RIVER

Reporting Period 01-Oct-2005 to 10-Jan-2006

Section Marebone Weir To Oxley (Gs421022)

November 2005

Work Approval	Holder	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total		
80CA700604																																		
80AL700604														45.0																				
Total														45.0																		45.0		
80CA700657																																		
80AL700651																										45.0	45.0	21.5	45.0	16.0				
80AL700653														40.0	25.0																			
Total														40.0	25.0											45.0	45.0	21.5	45.0	16.0			172.5	
80CA701253														40.0	25.0																			
80AL701252														45.0																				
Total														45.0																			45.0	
80CA701283																																		
80AL701281																																		
80AL701282																									50.0	50.0	50.0	50.0	50.0	50.0				
Total														100.0	50.0										50.0	50.0	50.0	50.0	50.0				300.0	
80CA701286														100.0	50.0																			
80AL701284																																		
Total																										40.0	40.0	40.0	40.0	40.0	40.0	40.0		280.0
80CA701563																																		
80AL701561																																		
Total														200.0	100.0																			300.0
80CA702071														200.0	100.0																			
80AL702068																																		
80AL702069																																		
Total														60.0	25.0												45.0	45.0	21.5	45.0	16.0			172.5
80CA702149														60.0	25.0																			
Total														60.0	25.0												45.0	45.0	21.5	45.0	16.0			257.5
80CA702808																																		
80AL702809																																		
Total														75.0	37.5																			112.5
80AL702809														75.0	37.5																			
Total														75.0	37.5																			112.5
Month Total														200.0	100.0										50.0	180.0	180.0	133.0	180.0	80.0	40.0	40.0	1,272.5	