

**Response to Questions on Notice**

**From the Standing Committee on State Development's inquiry into economic and social development in Central Western New South Wales, Parkes Hearing, 2nd November, 2011**

**Historic Recovery of Environmental Water**

Managed environmental water is not a new concept in the Macquarie valley. The first environmental allowance was provided for following commencement of river regulation when Burrendong Dam was constructed in 1967.

The table below provides a timeline of specific provisions for water for the environment in the **Macquarie regulated river system**. Note that there was no compensation accompanying any of the reductions prior to the buy back and infrastructure programs.

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| 1967      | Commencement of river regulation with the completion of Burrendong Dam<br>18.5 GL allocated to the environment   |
| 1986      | Environmental allowance became 50 GL of High Security entitlement  |
| 1996      | 75 GL of General Security entitlement was added to the environmental allowance and supplementary access for industry capped at 50 GL   |
| 2004      | Commencement of Water Sharing Plan for the Macquarie-Cudgegong Regulated Rivers<br>Existing High Security (50 GL) and General Security (75 GL) environmental entitlements converted to 160 GL of General Security entitlement<br>Supplementary access further restricted to individual licence holders |
| 2004-2011 | NSW State Government purchased 48 GL General Security entitlement and 1.5 GL of Supplementary entitlement through Riverbank, Rivers Environmental Restoration Program and Wetland Recovery Program <sup>1</sup>  |
| 2008-2011 | Commonwealth Environmental Water Holder purchased 58 GL General Security entitlement and 2 GL of Supplementary entitlement through the Restoring Balance in the Murray Darling Basin Program <sup>2</sup>  |
| 2010      | Minister Wong announced successful projects in Round 1 of the Private Irrigator Infrastructure Operators Program expected to result in another 48 GL of General Security entitlement to go to the Commonwealth Environmental Water Holder  |

<sup>1</sup> <http://www.environment.nsw.gov.au/environmentalwater/waterpurchase.htm>

<sup>2</sup> <http://www.environment.gov.au/water/policy-programs/entitlement-purchasing/macquariebogan.html>

The **Lower Macquarie Groundwater Sources** has also been subject to prior entitlement / reliability reductions for the purposes of returning water to the environment. As late as 1996 groundwater development for irrigation was encouraged, however, by 1998 the NSW Government had placed an embargo on the issuing of new groundwater licences.

A water sharing planning process was embarked upon in the early 2000s which culminated in the implementation of a Water Sharing Plan in 2006. The Water Sharing Plan saw the existing level of irrigation entitlement across the 6 zones of the Lower Macquarie Groundwater Sources reduced by over 50% from 134,208 ML to 65,687 ML. Individual reductions varied considerably with some licence holders losing in excess of 80% of their original entitlement. Some compensation to licence holders was made available through the *Achieving Sustainable Groundwater Entitlements* program. Further, as part of the new Water Sharing Plan, 15% of the average annual recharge was reserved for the environment and Aboriginal cultural heritage.

### **Value of Water Entitlement**

Under the *Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers 2004*, diversions are capped at 27% of the long-term average river flows, which sets aside over 70% of the water resource for environmental purposes.

Since 2004, both the NSW and Commonwealth governments have made significant investments in obtaining additional water entitlement further reducing the 27% of water that is made available for human uses to around 20%. That is, currently providing 80% of the long-term average flow to the environment.

The purchased entitlements, as outlined in the table above, are predominantly General Security river licences with a current market value of approximately \$1,250 per megalitre. The currently held General Security entitlements therefore represent a State held asset of over \$60 million and Commonwealth held asset of over \$238 million.

MRFF recognises that governments can be a legitimate player in water markets, however, government water holders have not yet been able to provide any value measure of the public good outcomes that this significant tax-payer investment should be aimed at achieving. This measure is complicated in a river system such as the Macquarie, where the majority of publicly owned entitlement is being delivered to privately owned and managed land.

On the other hand, water removed from the consumptive pool has a measurable economic value in terms of foregone agricultural production and associated flow-on impacts. In a valley such as the Macquarie where the majority of licenced entitlement is General Security used predominantly for cotton production, a reduction in entitlement has a reasonably direct correlation with the reduction in the valley's agricultural output.

The ABS provides annual data on the Gross Value of Irrigated Agricultural Production by natural resource management region<sup>3</sup>. The most recent data is provided for the 2008-09 year. Based on this data, the average Gross Value of Irrigated Agricultural Product in the NSW Central West in 2008-09 was \$918 per megalitre of water used.

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<sup>3</sup> <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4610.0.55.008Main+Features12000%E2%80%9301%20-%202008%E2%80%9309?OpenDocument>

The ABS also provides multiplier, or flow-on, figures for agricultural production. The most recent multipliers are from the 2006 Agricultural Census. The agricultural output multiplier is 2.178 meaning that every \$1 of agricultural production generates \$2.178 of activity elsewhere in the economy.

The ABS multiplier used to determine flow-on job numbers from agricultural production is 1.828. It should be noted that these are generic agricultural multipliers, so one might expect the multiplier for irrigated agriculture, as a more intensive industry, to be greater.

### **River Gauging**

As the peak industry group for irrigated agriculture in the Macquarie Valley, Macquarie River Food and Fibre (MRFF) has a particular interest in accessing timely and accurate information on the river heights and forecasts for the Macquarie River. Over the past 12 months, with an increase in water availability and a moderate-major flood event experienced, many of our members have raised concerns with the provision of river gauging and forecasting information.

In particular, there is now some confusion with real-time information (accessed via the NSW Office of Water WaterInfo website), and river predictions and flood warnings (provided by the Bureau of Meteorology) made available from different sources. As well as confusion, costly delays were experienced during the December 2011 flood event as a result of conveying information between the various players, which also includes State Water Corporation and the NSW State Emergency Services.

In addition, the summer flood event on the Macquarie River highlighted the need for an expansion of the existing hydrometric gauging network downstream of Burrendong Dam and on key tributaries and effluents.

#### *MRFF recommends:*

Streamlining the provision of timely and accurate information to river dependent communities and industries. This could be achieved by contracting arrangements between the relevant agencies.

Extension of the river gauging network on the Macquarie River and its tributaries and effluents to more accurately measure and predict flow events.