Questions On Notice for the Wentworth Group of Concerned Scientists
– ESC Committee 12/11/12 Hearing, Canberra

Question on notice from the Chair during Inquiry:

Can I ask you on notice to look at the minister's second reading speech for the environmental outcomes for the lower Murray-Darling Basin and advise if these are positive outcomes that are met by the allocation of the 3,200 gigalitres.

Response:

These are positive outcomes.

However there has never been any scientific analysis released by the Murray Darling Basin Authority or any other scientific institution to suggest that returning 3,200GL of water is likely to deliver a healthy working Murray-Darling Basin (as required by the Water Act 2007), the Authority's new modelling does suggest that, along with the relaxation of eight river management constraints, a reduction in extractions of 3,200GL is likely to result in a substantial improvement in the health of the rivers of the Basin.

With an additional 450GL and the removal of the eight constraints, the Authority's modelling suggests that the Basin Plan is now capable of achieving 66 per cent of the 112 environmental water requirements that are needed to deliver a healthy working river.

If these amendments deliver the environmental outcomes identified in the 3,200GL modelling, this would represent a significant improvement when compared to the draft Plan released in November 2011.

If the Minister is determined to ensure the outcomes identified in the 3,200Gl modelling recently produced by the Murray-Darling Basin Authority are achieved as a result of the Water for the Environment Special Account Bill then the outcomes in column BP-3,200-RC in the following table (taken from the Murray-Darling Basins report) as well as the outcomes described in the Ministers speech and the 3,200Gl modelled outcomes for the remaining of the 112 indicator sites should be included in both the Bill and the Basin Plan.

Table E.3: Proportion of years containing a successful environmental event for four hydrologic indicator sites on the River Murray.

Hydrologic Indicator Site	Flow indicator	Target: high to low uncertainty	Without develop-ment	Baseline	BP-2800*	BP-2800-RC*	BP-3200*	BP-3200-RC*
Barmah-Millewa Forest	12,500 ML/d for 70 days	70 - 80%	87%	50%	83%	82%	83%	82%
	16,000 ML/d for 98 days	40 - 50%	66%	30%	58%	52%	61%	55%
	25,000 ML/d for 42 days	40 - 50%	66%	30%	44%	46%	47%	46%
	35,000 ML/d for 30 days	33 - 40%	53%	24%	30%	33%	31%	35%
	50,000 ML/d for 21 days	25 - 30%	39%	18%	16%	14%	18%	16%
	60,000 ML/d for 14 days	25 - 30%	33%	14%	11%	11%	11%	10%
	15,000 ML/d for 150 days	30%	44%	11%	38%	39%	36%	39%
Gunbower–Koondrook–Perricoota Forest	16,000 ML/d for 90 days	70 - 80%	86%	31%	68%	67%	71%	71%
	20,000 ML/d for 60 days	60 - 70%	87%	34%	60%	59%	61%	61%
	30,000 ML/d for 60 days	33 - 50%	60%	25%	38%	36%	39%	38%
	40,000 ML/d for 60 days	25 - 33%	39%	11%	18%	20%	24%	25%
	20,000 ML/d for 150 days	30%	43%	7%	27%	25%	29%	32%
Hattah Lakes	40,000 ML/d for 60 days	40 - 50%	67%	30%	46%	45%	50%	46%
	50,000 ML/d for 60 days	30 - 40%	47%	19%	32%	32%	33%	35%
	70,000 ML/d for 42 days	20 - 33%	38%	11%	18%	17%	21%	20%
	85,000 ML/d for 30 days	20 - 30%	33%	10%	13%	13%	14%	15%
	120,000 ML/d for 14 days	14 - 20%	23%	8%	8%	8%	8%	8%
	150,000 ML/d for 7 days	10 - 13%	17%	5%	5%	5%	6%	6%
Riverland–Chowilla Floodplain	20,000 ML/d for 60 days	72 - 80%	89%	43%	72%	68%	75%	74%
	40,000 ML/d for 30 days	50 - 70%	80%	37%	61%	58%	61%	57%
	40,000 ML/d for 90 days	33 - 50%	58%	22%	36%	34%	39%	36%
	60,000 ML/d for 60 days	25 - 33%	41%	12%	25%	25%	27%	25%
	80,000 ML/d for 30 days	17 - 25%	34%	10%	14%	13%	14%	18%
	100,000 ML/d for 21 days	13 - 17%	19%	6%	5%	6%	7%	6%
	125,000 ML/d for 7 days	10 - 13%	17%	4%	4%	4%	4%	4%

Low uncertainty frequency or better
Low uncertainty to high uncertainty frequency range
Below high uncertainty frequency; improvement relative to baseline
No environmental demands specified in model -
Demands not included in previous MDBA modelling that informed ESLT. The majority of these are considered beyond capacity for managed delivery and therefore not part of 'actively managed' floodplain

Additional Questions on notice received by email on Wednesday 14 November are addressed below.

1. In recent media you were quoted (TIM STUBBS) as saying a return of 3200 GL to the MDB was insufficient to meet enough environment targets. How much water do you believe should be returned to the MDB?

The Guide to the Basin Plan is the best publicly available science completed to show the range of water volumes required to restore the health of the Basin. It says that between 3,856 GL (high uncertainty of achieving outcomes) and 6,983 GL (low uncertainty of achieving outcomes) of water needs to be recovered from consumptive use. This is the only work done by the Authority to indicate how much water is required to achieve the targets set for a healthy working river.

2. Would this figure be different if you personally had to make a balance between socioeconomic effects and environmental outcomes?

This is the decision the parliament must make. The decision must comply with the *Water Act 2007*.

3. How would you like to see the $1.77 billion spent? That is, what would you apportion to 'water buyback', 'constraint removal' and 'on-farm efficiency upgrades'?

Taxpayers money should be spent in a way that gets the best outcomes for the taxpayer. In this case it is delivering a healthy working river as required by the Water Act.

There has been two recent reports that provide information that would be useful in making these decisions.

The first is a report commissioned by the Department of Sustainability, Environment, Water, Population and Communities (*Survey of water entitlement sellers under the Restoring the Balance in the Murray-Darling Basin Program*). This report surveyed 589 irrigators, 520 of whom had sold water to the Restoring the Balance program. Of these 60% had sold part of their water entitlement to the Commonwealth and were still farming, 30% had sold all their water to the Commonwealth and had exited farming and 10% had sold all of their water entitlement to the Commonwealth and were still farming.

Findings from this report included:

- Almost 80% of irrigators surveyed said the decision to sell water had been positive for them, including 30% who said the decision had been very positive. Around 13% of irrigators surveyed said the decision to sell had not been positive for them.
- Of all irrigators who have sold water to the Restoring the Balance program and exited farming, a maximum of 10% may have left the region. The real figure is likely to be significantly less than this.

The second report was published by the Centre of Policy Studies, Monash University (*Upgrading Irrigation Infrastructure in the Murray-Darling Basin: is it worth it?*). The authors of the report analysed the costs and benefits of irrigation infrastructure upgrades compared with other policy instruments. One of the key findings of this work was that "… *as an instrument of regional economic management, infrastructure upgrades are inferior to public spending on health, education and other services in the Basin. For each job created from upgrades, the money spent on services could create between three and four jobs in the Basin*."