Inquiry Into the Augmentation of Water Supply for Rural and Regional New South Wales: Questions on Notice

1. **<u>What you mean by improving the information systems for managing the water in the State?</u>**

- River level management, information – existing measuring equipment is unreliable and incorrect.
- Automated state water system coordinating bulk water data – farmers need transparent data about where the water is and when it is going to arrive.

Groundwater

A program for industry involvement in developing and implementing a NSW ground water monitoring strategy that:

- Establishes standard specifications for in-bore sensors, telemetry and data management
- Provides real time public access to summary data
- Provides real time access to farmers for bores on their property
- Enables the development of base line data and change monitoring for critical ground water systems
- Prioritises capital investment for integrated monitoring of critical ground water systems
- Is based on detailed hydrogeological modelling and a statistical stratification model to identity the distribution (density and precise location) of bores necessary to adequately monitor critical ground water systems, which existing bores are fit for purposes and where new bores are necessary.

Background

Ground water data monitoring is currently not robust, with high rates of equipment failure and significant data integrity problems.

NSW aquifers are highly varied in their depth, connectivity and economic importance. Systems range from the massively connected great artesian basin, the Namoi system that underpins the productivity of the Liverpool plains, and small perched aquifers along the dividing range.

The power of hydrogeological modelling has improved and the costs of sensor tech and telemetry has fallen.

It is possible to cost effectively implement an integrated measurement and monitoring program for ground water

Improving ground water information will have significant flow on benefits for improving the accuracy of surface water management

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2. Places around the State that are implementing significant innovations around water-saving measure on farms:

a.) Derek Schoen – Corowa

We live next door to Riverlea piggery, the largest piggery in the southern hemisphere. We were connected to a reuse scheme with the piggery. The piggery pumps across the fence to our place and we use it. The water that we receive has got 100 per cent of the nitrogen requirement to grow an oat and hay crop and 65 per cent of the phosphorous requirement to grow that oat and hay crop. There is no need to remove all those nutrients at a great expense and discharge it into a river or into potable water, when it can be used in agriculture. We have also converted all flood irrigation to centre pivot, increasing the irrigatable area with the same water allocation.

b.) Helen Dalton – Binya

Most farmers in the MIA have drainage and also recycle water. We are the exception where we are outside of the MIA but still irrigate with water coming from the MIA. As such we have no drainage but we recycle water. This keeps chemical within the drainage system on our farm. When we drain our rice ready for harvest in the autumn we put that water in a dam and reuse it with pastures or pre water ground for the winter cropping program. We don't waste a drop!

3. Key watering dates for river valleys in NSW:

River valley	Crop	Irrigation
Gwydir	Cotton	• Sowing around October (dependent on soil temperature (must be 13^0 C)) and irrigation continues throughout summer.
Lachlan	Vegetables Melons	• Vegetables are sown/irrigated all year round. • Melons are sown Oct to Dec and irrigation continues throughout summer.
Lowbidgee	Rice Cotton Corn	• Rice is a summer cereal crop in the Riverina, with planting in October, with water applied after sowing until February. • Corn planting usually commences in spring when soil temperatures reach 14–16°C and irrigation continues throughout summer
Macquarie	Cotton	• Sowing around October (dependent on soil temperature (must be 13^0 C)) and irrigation continues throughout summer.
Murray	Rice Cotton	• Rice is a summer cereal crop with planting in October, with water applied after sowing until February.
Murrumbidgee	Rice Vegetables	• Vegetables are sown/irrigated all year round.
Namoi	Cotton	• Sowing around October (dependent on soil temperature (must be 13^0 C)) and irrigation continues throughout summer.
Peel	Pasture crops eg lucerne	• Summer irrigation: October to April. • Occasional winter irrigation.