



Cotton Australia submission
Legislative Assembly
Standing Committee on Natural Resource Management (Climate Change)
Sustainable Water Management Inquiry



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About Cotton Australia

Cotton Australia is the key representative body for the Australian cotton growing industry. It helps the industry work together to be world competitive, sustainable and also tell the good news about the industry's achievements. Cotton Australia determines and drives the industry's strategic direction, retaining its strong focus on research and development (R&D), promoting the value of the industry, reporting on its environmental credibility, and implementing policy objectives in consultation with its stakeholders.

Cotton Australia works to ensure an environment conducive to efficient and sustainable cotton production. It has a key role in Best Management Practices (BMP), an environmental management program for growers. This work has seen a significant improvement in the environmental performance of the industry, with huge improvements in water use efficiency, significant reductions in pesticide use, and millions of dollars invested into R&D.

Introduction

Cotton Australia welcomes the opportunity to comment on the *Sustainable water management inquiry* for the Standing Committee on Natural Resource Management. This comment comes during a critical year of water reform in NSW, and in particular the Murray Darling Basin. The Murray Darling Basin Authority (the Authority) is currently drafting its Basin Plan, which is due for release in June, 2010. In the meanwhile, this Plan is coinciding with continued provision of the Federal Government's *Water for the Future* initiative. It is worth noting that various industry and community bodies have already provided substantial comments on issues set out in the terms of reference for this inquiry. Cotton Australia highly recommends to the committee that it review the extent of submissions which have been delivered to the following recent policy areas and inquiries in recent months:

- Public comment to the Murray Darling Basin Authority on its Sustainable Diversion Limits Issues paper;
- Public comment to the Productivity Commission on Market Mechanisms for Recovering Water in the Murray Darling Basin;
- Public comment to the Productivity Commission on its draft report for Market Mechanisms for Recovering Water in the Murray Darling Basin; and
- Comment to the NSW Government Department of Climate Change on the Draft Macquarie Marshes Adaptive Management Plan.

Thus, given the extent of community and industry response by way of recent submissions to similar inquiries, the effort here is aimed at being a concise summary and explanation of water management in relation to the cotton industry. For more detail, Cotton Australia would welcome an invitation to meet with the committee to discuss any of these topics further, or otherwise to provide direction for additional information.

Best practice in water conservation and management

The cotton industry prides itself on a track-record of continued improvement with its water use efficiency (WUE). Via one of the industry's main research bodies, the Cotton Catchments Communities CRC, the industry has also set itself the target of doubling its WUE over the 10 years to 2017.

The Australian cotton industry is also highly adaptable to change, and the national crop each year has been responsive to the water supply of that year. In fact, it is this need for adaptability to varying conditions that has led the Australian cotton industry to be agricultural pioneers of best practice in the irrigation industry. According to the NSW DPI (www.dpi.nsw.gov.au) cotton requires about 7.25ML/ha four years out of five, which compares to 7.15ML/ha for corn, 6ML/ha for soybeans, and 3.8ML/ha for sorghum. However, cotton growers extract far more value from the water, as the following gross margin analysis shows.

Commodity	Cotton	Corn	Soybeans	Sunflowers	Sorghum
Gross Margin/ha	\$2,589	\$1,559	\$1,396	\$974	\$583
Gross Margin/ML	\$357	\$218	\$233	\$250	\$153

Source: (www.csd.net.au).

Because of the high value that cotton growers extract from their water, they have learnt to use it as efficiently as possible and to follow what has now become an industry mantra: "More crop per drop".

The majority of cotton in NSW is grown under an efficiency-optimised furrow system. A small number of farmers have proven that there are further efficiencies to be gleaned via investments in significant infrastructure such as overhead or drip irrigation. However, these investments are capital-intensive, and the water savings are small in percentage terms, meaning that the uptake of this infrastructure would be significantly accelerated by government incentive programs. Therefore, with the Federal Government already having a water-efficient infrastructure program in place, it is imperative that the NSW State Government work to expedite the delivery of this program. The NSW Government must also work to ensure that this funding is delivered efficiently on-farm, and not consumed via administrative areas within the government.

In the longer term, private investment in the industry is also seeking to deliver genetically-modified cotton with water use efficiency genes over a five-year time horizon. This will assist the industry to maintain yields in limited-water scenarios.

The cotton industry also adheres to high standards for water quality management, ensuring clean water post farm gate. To site just one example, the introduction of GM insect-resistant cotton has reduced its insecticide use by about 80% over the last decade.

The cotton industry can substantiate its track-record of improving yields, water use efficiency, water quality, and boosting biodiversity. It is not however possible to give a full account of all the industry's achievements nor an exact

figure for WUE for an Australian bale of cotton. To borrow a phrase, WUE is a fluid concept. It depends on soil type, irrigation method, rainfall, temperature, and local climatic conditions to name just some of the influential factors. Cotton Australia would welcome the opportunity to answer any specific questions that the committee has on WUE for the Australian cotton industry.

The likely impact of climate change on the availability of water resources under different climatic scenarios

The impact of climate change on the availability of water resources is dependent on the extent of the climate change that may occur. If the climate change is toward a trend of drier and hotter periods, then there will be less water availability, which will be correlated to the relative hotness or dryness of the change. If the climate change is toward a trend of wetter periods with more storms, then there will be increased water availability, which will be correlated to the relative wetness or storminess of the change.

In support of this, the release of the CSIRO Sustainable Yields (SY) reports in 2008 indicated a wide range of climate-change scenarios for 2030, including scenarios of both increased and decreased water availability. The results of these reports have been seriously questioned, as have the very wide range of predictions that they contain. However, it is of concern to Cotton Australia that because of this uncertainty that the current water reform agenda may ultimately overreach its target and have a negative impact on highly-efficient agriculture in NSW. The irony of this would be that regional economies may be negatively impacted in a greater way by climate change forecasts than actual climate change.

Approaches to the management of water resources by all water users including provision for environmental flows

It is of concern that in the prelude to the release of the Basin Plan later this year broad-scale management decisions of MDB resources are occurring without stakeholder consultation. Typically, significant management decisions have been announced solely via the media. The rationale behind some of these management decisions has not always been apparent. Two examples of this include the purchase of Toorale Station at Bourke on September 10, 2008, for \$24 million, and the purchase of Twynam water across the MDB for \$303 million on May 28, 2009.

FEDERAL Water Minister, Penny Wong, told a parliamentary hearing in Canberra last night that the Government does not consult with communities on the impacts of water purchases like the major Twynam buy-up.

Under heavy questioning at a late night Senate Estimates hearing, Senator Wong said it doesn't put every potential purchase it makes to affected

communities and doing so would likely be in breach of the Government's commercial negotiations with willing sellers.

Source: <http://theland.farmonline.com.au/news/nationalrural/agribusiness-and-general/general/no-study-of-twynam-sale-community-impact/1526170.aspx>

It is of great concern that the government is aggressively pursuing a 'no regrets' water purchase program without consultation with local communities.

Local Bourke councilor summarised the position for his community following the purchase of Toorale:

"Loss of jobs, loss of income to locals. Even myself, I'm at the moment doing a job carting their corn over to Gunnedah," he told ABC Radio
[\(<http://www.abc.net.au/news/stories/2008/09/11/2361615.htm>\)](http://www.abc.net.au/news/stories/2008/09/11/2361615.htm)

Regarding the Twynam water purchase, the deal attracted widespread criticism for being poorly targeted. The following is just one example:

Chief executive of Lachlan Valley Water, Mary Ewing, said a one-in-twenty-year flood would be needed to push water from the Lachlan River into the Murrumbidgee, which in turn runs into the Murray.

"That would be five to six million megalitres but our long term average in the Lachlan is 1.2 million megalitres," she said.

"That's a very large flow.

"The water bought from the Lachlan will not help South Australia or the Lower Lakes.

[\(<http://theland.farmonline.com.au/news/state/agribusiness-and-general/general/twynam-water-a-1-in-20-year-help-to-murray/1526838.aspx>\)](http://theland.farmonline.com.au/news/state/agribusiness-and-general/general/twynam-water-a-1-in-20-year-help-to-murray/1526838.aspx)

To site another example, Cotton Australia is concerned with some of the media terminology that surrounded the announcement of a major environmental water release from the Menindee Lakes in NSW directed toward the Lower Lakes in South Australia.

We acknowledge that this water – triggered by NSW floods at the beginning of 2010 – plays a vital environmental role. However, media announcements (PW16/10 & PW17/10) did not clarify that the full amount allocated would ultimately differ from the full amount that the Lower Lakes will receive. While the announcement of some 170 gegalitres is a substantive amount, there is also a need for an increased public understanding of the nature of the Basin. Specifically in this case, media and the public should be given greater

information about aspects such as transmission losses. A snapshot of numbers such as the distance from the Menindee Lakes to the Lower Lakes, potential evaporation losses, and the size of the Lower Lakes themselves would have helped foster a better understanding of the issue.

Our organisation recognises the importance of sustainable water use in our river systems, and has a strong interest in ensuring a healthy environment across the Basin. Floodwaters such as those triggered by rainfall in NSW over the Christmas period play an important role for of sustainable water use in the system.

Cotton Australia has significant concerns over the timeframes for the development of the Basin Plan this year, and if the Murray Darling Basin Authority can deliver a robust result in a short time-frame.

Also, Cotton Australia is greatly concerned that the *Restoring the Balance* portion of *Water for the Future* is greatly outpacing the spend from the *Sustainable Rural Water Use and Infrastructure* component. Ultimately, the water buyback is greatly outstripping investments in infrastructure, due to delays at both a State and Federal level.

Infrastructure upgrades have many further benefits beyond straightforward water recovery, including an economic stimulus effect and ongoing support of the irrigation industry, which is in turn the primary economic driver in many rural communities in the Basin. Major infrastructure upgrades create jobs during construction and on a long-term basis during maintenance. If such infrastructure allows for the difference between an irrigator planting a crop instead of leaving a paddock fallow, then this infrastructure also allows for improved employment opportunities on that farm. Such projects, when they underpin the profitability of a business, can also have an ongoing positive effect on the community by increasing the sustainability of agricultural production.

Cotton Australia acknowledges that there could be a higher cost of recovery for water bought via infrastructure upgrades than the buyback – but we point out that the benefit and value of this ‘infrastructure water’ is also far greater for the community. There are numerous invisibles factors behind the price of water bought through infrastructure savings, and these include sustained production, and continued economic stimulus and community well-being.

It is also critical that environmental water be used efficiently. For instance, at the Macquarie Marshes in NSW, 90% of the floodplain is privately owned and used for grazing purposes. Because of the impacts of grazing on this environment, there is a significant risk that environmental water purchases would not be used effectively. Rather, without proper land management programs in place, this would be simply be used to grow pasture and fatten cattle. Ultimately, this would not result in a positive outcome for the Marshes. This reinforces the need for both *Water for the Future* and the Basin Plan to be matched with a clear environmental watering plan, in order to ensure efficient use of this water and to give confidence to irrigation communities. Currently, this is not the case.

It is also noteworthy that there remain significant concern for NSW irrigators with floodplain harvesting and supplementary flow water licences.

These licences are not perpetual, and this creates a high degree of uncertainty for irrigators in both medium- and long-term planning.

Conclusion

Should the committee require any further information, Cotton Australia would be happy to assist. We wish the committee well in its inquiry into sustainable water management.