

**Australian Cotton Growers Research Association**

**Address by Jim Downey**

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**" Mainstream Environmental Issues "**

Thank you for the opportunity to be here today and talk to you on the topic " Mainstream Environmental Issues for Cotton ". I am delighted to be here.

When I asked around with my colleagues in the conservation movement for some views on what to say to here today, I have to report one theme that emerged said something like this : " Given the environmental issues confronting the industry, we are probably better off without it !! "

Today I would like to expand on one of the reasons behind this comment and offer some solutions that won't in fact see one of our

major agricultural industries disappear. I will concentrate on one issue that I am sure you are all aware of, namely water use and more specifically environmental flows.

I am also tempted to talk today about chemical use. Instead I wish to just nominate it as a further issue confronting the industry where community expectations have risen in recent years. There is also an inconsistency between the views of many people who say their health has suffered from exposure to chemicals from agriculture on the one hand and recent industry reports that I have read on the other.

Very briefly our response that arises from this lack of consensus is the need for funding increases in monitoring of the impacts on people from exposure to chemicals, funding for comprehensive epidemiological studies, the development of environmental health and community right to know legislation and finally changes that allow rebates for investigative residue blood testing.

I would now like to turn to my topic, that is water.

## **Background**

The ACF has four major internally funded programs. These are biodiversity, sustainable cities and industry, natural resources and Asia / Pacific and Indigenous people. Each of these four has a priority campaign. The priority campaign for the natural resources program is water. Our efforts in this area over the past while have concentrated on the Murray Darling and more specifically environmental flows.

ACF simply contends that far too much water has been taken from the Murray Darling for irrigation, and that insufficient water is left to manage in ways which meet the ecological needs of the rivers and their floodplains, wetlands and billabongs. In a nutshell, environmental flows means water which is allowed to flow through the system in ways which best mimic natural flow regime, thereby meeting the needs of native fish, invertebrates, waterbirds and plants.

Our work on environmental flows, like so much of what the ACF is involved in, throws up a complex search for solutions. The complexity arises because of the confluence that occurs when major economic and

environmental considerations meet. Why is environmental flows important to the ACF and why has it become one of our selected priorities from a very large menu? We have chosen it and therefore put aside many other choices.

The answer is because of the ecological imperative and the urgency that we find ourselves in at this point in history. At the global level some measure of the worth of water as a resource is contained in the following statistics. Ninety seven per cent of the world's water is salt water. Of the other three per cent which is fresh, two thirds is locked away in ice caps, glaciers or deep underground. If 100 litres represented all the water in the World, the usable supply of freshwater would be only half a teaspoon.

In Australia, undoubtedly considerable economic wealth has been generated by irrigation and this includes the \$1 billion annual production from the cotton industry. While less than one per cent of agricultural land is used for irrigation, this land produces more than 30 per cent of the value of Australia's agricultural output. In doing so, however, irrigation accounts for 74 per cent of all water extracted for

human use from our river systems and ground water. Australia also has the highest per capita water storage of any country; a fact which reflects the drought-prone nature of Australia.

This has been achieved at great cost to the environment. The natural flows of rivers and streams have been altered, habitats destroyed, widespread destruction or degradation of native wetlands and floodplains, alterations to the capacity with which rivers are able to flush impurities and the consequent decrease in water quality. The table below considers one of these in more detail :

**Estimated areas of known wetlands and  
the proportion lost or degraded since European settlement**

<b>State</b>	<b>Wetland area '000 HA</b>	<b>Proportion lost or degraded</b>
NSW	4500	50 %
Vic	400	33-50 %
Qld	7798	na
SA	4438	na
WA	362	70-80

## **Water and Cotton**

Tributaries of the Darling now have between 40 and 85 per cent of their average flows diverted for irrigation. In total, the Murray Darling now has 80 per cent of its flow diverted for human use, and ninety-five per cent of this is for irrigation.

The Gwydir is a case in point. The Copeton dam has changed flows dramatically, and this, together with the over-allocation of water for irrigation, has had a profound effect on the Gwydir wetlands in particular. To say that water has been over-allocated in the Gwydir is an understatement, and – noting the progress that has already been made here – further resolution of environmental flow requirements in the Gwydir is a priority.

The Macquarie is another example – perhaps even more controversial as far as the cotton industry is concerned. Here, the once-expansive wetlands of the Macquarie Marshes are in big trouble, and scientists seem united in their view that more water is required to support the ecological values of the Marshes.

Much the same story applies over most of the Murray Darling basin – far too much water has been taken from the environment. When we surveyed freshwater ecologists earlier this year, not one respondent described the Rivers – or their floodplains, wetlands and riparian vegetation – as anything other than moderately degraded or severely degraded. 70 per cent of respondents rated environmental flows as the top priority issue to be addressed.

Last year, Professor Peter Cullen stated publicly that water use in the Murray Darling has to be reduced by around 20 per cent if the rivers' ecology is to return to some semblance of health. To us this figure sounds about right, although it may be more or less than this depending on where you are.

Cotton, of course, is one of many sectors which relies heavily on this water. So what is to be done? While we supported the changes announced by the NSW Minister for Land and Water Conservation last year, we also hear the views of cotton growers who face reduced

access to water without any form of compensation. After all, past Governments are largely to blame for this over-allocation of water.

What I would like is some consensus between irrigators and the conservation movement on how best to restoring environmental flows in our inland river systems. While I accept that we may never see eye to eye on some environmental flow issues, (and some of you probably *still* think that water flowing to the sea is a waste of water!), but this should not mean that we can't move towards consensus on some things.

We believe that, by and large, environmental flows can be achieved with little pain for the cotton industry, provided that state and commonwealth governments come to the party with appropriate policies and resources. We believe that environmental flows should be achieved as equitably as possible, hopefully in ways that are actually good for business.

Our contention is that the cotton industry has developed in this country without high levels of Government assistance (water prices

notwithstanding). It is an industry that is more innovative and responsive than most. It also very dynamic, and clearly sees research and development as a high priority. These are strengths that place the industry well to tackle the challenges presented by Professor Cullen's 20 per cent figure that I mentioned earlier.

We believe it is in both the industry's interest and of course the environment's interest that cotton is grown using less water.

Parallels exist in urban Australia which, we believe, also uses too much water. It is interesting to note that the Sydney Water Corporation is now legislatively required to reduce water consumption per capita by 25 % by the year 2001, and by 35 % by 2011 using 1991 figures as a base starting point.

The solutions we would like to work on with industry and government comprise mainly a range of water saving arrangements as follows

- Further development and expansion of drip and sub-surface irrigation, preferably with financial assistance from state and commonwealth governments;

- Other measures to improve water use efficiency and wastewater re-use;
- Assistance for growers to develop property management plans;
- Exploration of rain-grown cotton;
- Possible research into reducing evaporation from ring tanks;
- Water levies hypothecated to buying back entitlements that have been over allocated in the past, that is, ensuring fair buy outs for growers;
- Certification for growers to ensure greater compliance with current best practice across a range of performance measures (including pesticide use).

I note here that there may not be an enormous opportunity to improve water use efficiency in much of this cotton country. However, even a 10% or 15% improvement could mean a great deal for the environment.

Both the state of the rivers and increasing concern within the community about environmental flows have meant that measures are already underway to address the situation, at least in NSW. While I do

not expect that there will be no pain whatsoever within the cotton industry, I am keen to work with cotton and other industries to ensure that this pain is kept to a minimum.

The decision to cap water extraction from the Murray Darling system in our view already means that the size of the cotton industry in the Barwon Darling has reached its limits – there is simply no more water to be had.

The fundamental question that arises from this background is what is the optimal size for the cotton industry in the Barwon Darling?

If the environmental cost of water storage and diversion had been internalised and passed on, the industry would not have reached the size it has. In other words, the rapid and startling expansion of the industry has occurred in part because these costs were ignored. In a system where they were taken into account I doubt the industry would have reached its present size. But it has and we have to operate within that reality.

*In the context of a probable downsizing of cotton, the limited opportunities for expansion of the industry can only occur in one of two areas. Firstly, in the regions where it already exists or alternatively, in new regions. It is our contention that until solutions are found to some of the issues raised in this paper, expansion within existing regions is both unlikely and undesirable. It is undesirable both environmentally and economically given the scarcity and competition for water. Expansion will mean less availability for players already in the industry. It is a matter of protecting the people you already have instead of trying to protect more later on.*

The other alternative is to move into new regions. Two of those have already been proposed and which the environment movement is opposed simply because we do not want the same mistakes repeated. Namely, on the Fitzroy River in the Kimberly ( one of this country's great last remaining wilderness areas ) and secondly, on the Cooper Creek which feeds the Lake Eyre system.

## Conclusion

We are very aware of the difficulties and dilemmas facing you on the issue of water. It is the convergence of a significant environmental issue with a significant economic activity. We are only interested in developing solutions with you, the industry players and participants.

