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Coleambally Irrigation Co-operative Limited

Submission to the Senate and Regional Affairs and Transport Reference Committee

Inquiry into Water Policy Initiatives

November 2005

Submitted by:

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EXECUTIVE SUMMARY

CICL wishes the Committee well in its deliberations into water policy initiatives.

Whilst we wish that water policy was well planned and integrated between the jurisdictions, this is sadly not the case. On the one hand we have Land and Water Management Plans (LWMP) providing a classic example of Federal, and State Governments and the community coming together with essentially a meeting of the minds over a comprehensive program for long-term sustainability. The LWMP's are delivering real tangible outcomes. On the other we have the promotion of Upper Bound water pricing to further disadvantage Australian agricultural producers. CICL is concerned with the viability of agriculture in this environment that sees Government monopolies demanding exorbitant dividends from irrigation farmers that are battling other nations' treasuries via agricultural subsidies. CICL suggests that if this is the direction Government intends to pursue, then at the very least the Government monopoly should become contestable.

CICL has been disappointed in the past by the quotation by eminent scientists and politicians of dated data that has little relevance to today's practices and outcomes. In making this submission I have endeavored to present current data that has been audited by Government agencies and move public knowledge to a more informed level.

The data presented in this submission clearly demonstrates very significant improvement in key environmental indicators in our region including water tables, water quality and the quantum of environmental flow.

The data presented also demonstrates the very substantial investment by the Coleambally community in Land and Water Management Plan (LWMP) initiatives which have been developed after extensive consultation between Government agencies and the community. As of the 30th June 2005 $8.2M of Government incentive payments have been matched by $54M of community funds in delivering real on-ground works targeting long-term sustainability outcomes.

CICL is also investing heavily in cutting edge technologies and improving overall water distribution efficiency and maximizing water availability to our customers. To date CICL has invested in the order of $12M on such initiatives.

CICL is involved in a number of research projects with CSIRO, CRC's and other agencies looking at the likely impacts of drought and climate change on our region. Outcomes are driving our investment.

1.0 BACKGROUND

Coleambally Irrigation District is located 650km southwest of Sydney in the Riverina. Coleambally was constructed for the purpose of irrigated agriculture with construction commencing in the late 1950s and the town officially being opened in 1968. The area now has a population of approximately 1200 people.

The irrigation area was constructed to make use of water diverted westward as a result of the Snowy Mountains Hydro-Electric Scheme. It covers an area of 79,000 ha of intensive irrigation, 42,000 ha irrigation/dry farms and 297,000 ha Outfall District stations delivering water supply to 452 farms. Water is diverted to the area from the Murrumbidgee River at Gogelderie Weir. Coleambally Irrigation has a bulk license of 621,516 ML of surface water and 8,080 ML of groundwater entitlement, which is used for the irrigation area.

Drainage water flows via Yanco and Billabong Creeks before entering the Murray River. Much of the drainage water is reused downstream of Coleambally.

Irrigation water is used for crops such as rice, wheat, barley, oats, canola, soybeans, maize, sunflowers, lucerne, grapes, prunes and pastures for sheep and cattle.

The location of the Coleambally township and Coleambally Irrigation Co-operative Limited's (CICL) administrative regions are shown in Figures 1.1 and 1.2.

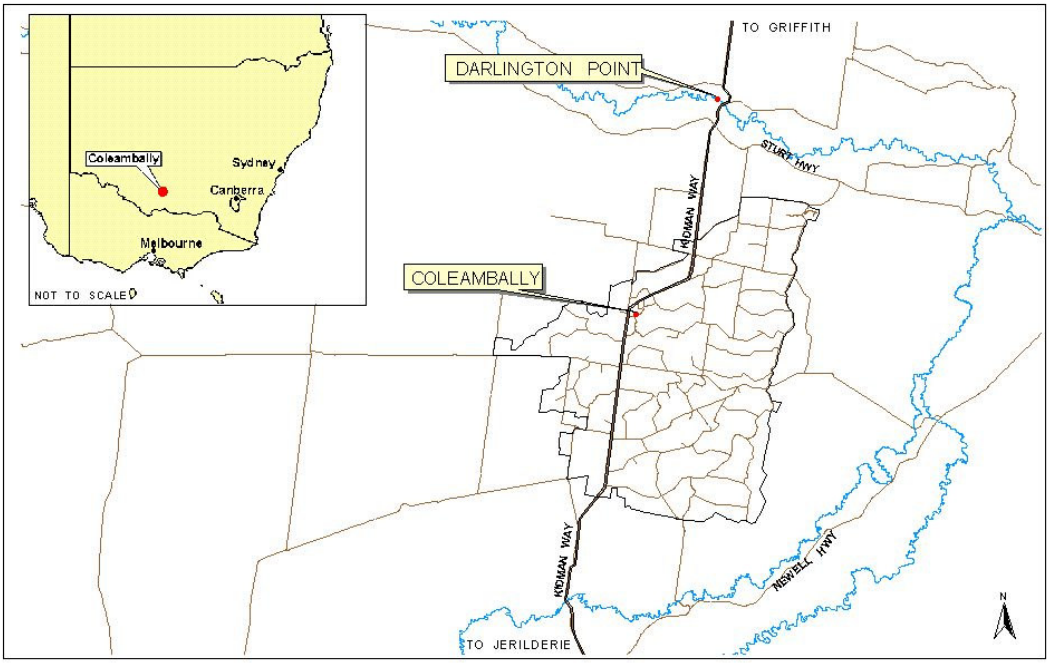


Figure 1.1 Location of Coleambally township

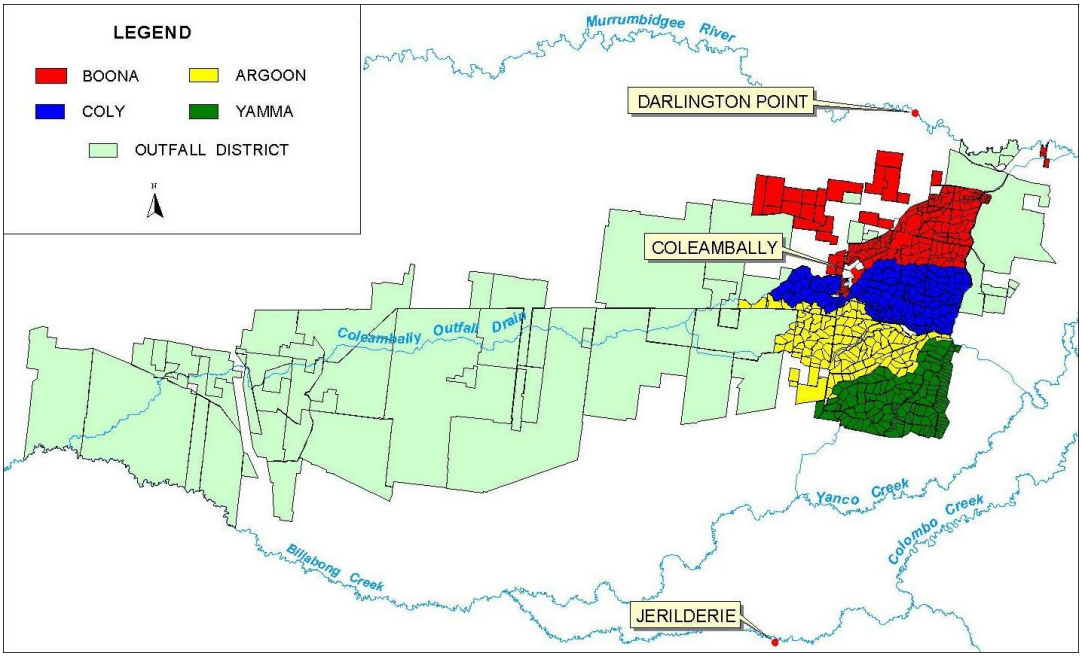


Figure 1.2 CICL operational area showing regions

CICL is required to distribute water to its customers within its operational area in a sustainable manner. The environmental and economic sustainability of the area is to be achieved through the implementation of Land and Water Management Plans.

2.0 THE DEVELOPMENT OF WATER PROPERTY TITLES

CICL supports the submission made by the New South Wales Irrigators' Council. As such you are referred to their submission in relation to this element.

3.0 METHODS FOR PROTECTION FOR RIVERS AND AQUIFERS

The irrigator members within the Coleambally Irrigation District accept they have a key role to play in achieving *National Water Initiative* and *Living Murray* targets as they relate to river and aquifer systems. However for these target to be achieved it requires the investment of both the Government and communities to be maximized and for rural communities' contribution to wider community expectations to be duly recognised.

CICL and our community know they have a key role to play in ensuring the long-term sustainability of our community and the long-term health of the river systems. Improved environmental outcomes are but one part of a more comprehensive plan. The Coleambally community of approximately 400 farming

families have been making a very large contribution to positive environmental, economic and social outcomes in line with the thrust of the National Water Initiative without being a load on Taxpayers, Treasury or Government (State and Federal).

It is suggested that the existing policies and the commitment of regional communities and irrigation businesses are well on the way to ensuring the protection of our river and aquifer systems. The following information provides hard data to support this claim.

3.1 Protection for Rivers

Maximum annual allocations since 1983 are shown in Figure 3.1. Since 1994/95 there has been a continual downward trend in allocations. Reduced allocations over the past eight years have adversely affected landholders capabilities to invest in on-farm works targeting water use efficiency. However even within this operating environment I believe their level of investment is admirable (Refer to Section). CICL has committed to a works program to maximize the availability of water to our customers by improving distribution efficiency.

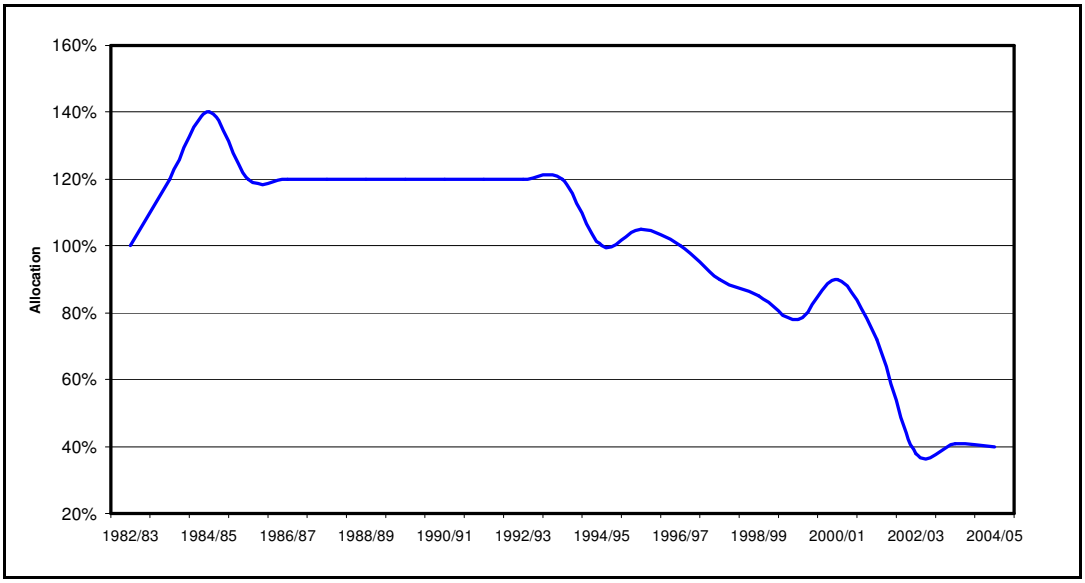


Figure 3.1 Annual general security allocations since 1982/83

Environmental flow data since 1998 for the Murrumbidgee River is shown below in Figure 3.2. 1998-2001 data is for calendar year (January to December) and was sourced from the NSW's Department of Natural Resources. 2002/03, 03/04 data is for the financial year and is sourced from State Water's Annual Reports. The data shows that the environmental flows released during 2002/03 and 03/-04 were greater than any other year in the past.

The data does not include environmental flows during Dec 2001 to June 2002. Also excluded are end of system flows.

2004/05 environmental flows are a mystery. It is apparent that neither DNR (Wagga and Leeton) and State Water (Dubbo and Leeton) could provide any information. Given the importance of such information it is of concern that such data appears no longer the responsibility of either agency.

Our community is concerned as to the constant calls for increased environmental flows from South Australian politicians given that evidence would seem that increased environmental flows are coming from the Murrumbidgee system during a period of one of the most severe drought conditions on record.

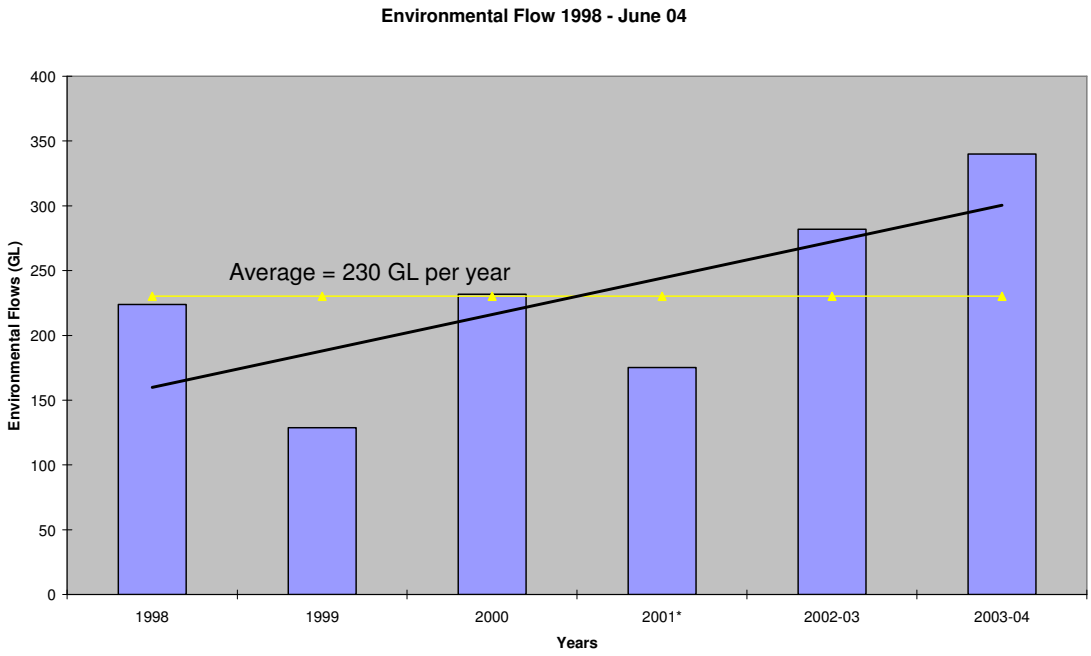


Figure 3.2 Specific Environmental Releases in the Murrumbidgee River

3.1.1 Investment at the Business Level

Total Channel Control (TCC)

CICL has to date invested approximately $9M over three years in TCC technology and is looking at a similar level of investment over the next three years to complete the coverage of the entire Coleambally Irrigation Area.

TCC involves the installation of automatic control gates, communication networks and advanced control and management software to existing open channel infrastructure that delivers reduced water loss through channel escapes as a result of precision volumetric measurement and remote monitoring and operation systems.

TCC has also provided the capacity to capture real time data on a wide range of water quality parameters such as EC, turbidity, pH, temperature etc hence enabling timely responses to issues which may emerge.

As part of our TCC program we are replacing on-farm dethridge wheels for metering water use. Dethridge wheels are well known to be inaccurate at both low and high flows. These programs are being implemented at great cost to our shareholders, but are seen as being essential in managing our water entitlement i.e. if you can't measure it (accurately), you can't manage it.

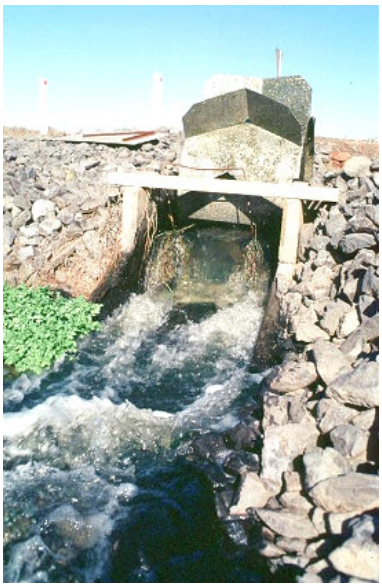


Figure 3.3 Dethridge Wheel

TCC also allows 2 hour water ordering which means farmers only take and use what the crop needs as against 24 hour ordering with changes to orders only made once every 24 hours i.e. may only need water for 18 hours but must take it for 24 hours.

Figure 3.4 FlumeGate

Bulk Metering of Diversions

In additional we have installed an accusonic meter at our offtake from the Murrumbidgee River and at an addition location on our Main Canal. Accusonic meters are recognised as the world's best technology for metering large flows, and once again come at significant cost to our shareholders ($200K approximately).

Channel Seepage

CICL is continuing to invest in investigations into channel seepage losses. We also have an annual budget allocation for clay lining works where seepage losses are idenitifed as an opportunity to create water savings. CICL was disappointed with the release of the final Pratt Report which was considered misleading. Unfortunately the findings of this report appear to have become fact, particularly in the political arena. A report titled, "*Channel seepage assessment with EC/EM and thermal imaging techniques*," was presented at the recent

ANCID Conference in Mildura by Willem Vlotman from the consulting engineering firm SKM. The report outlines the findings to date of channel seepage studies in the Coleambally Main Canal. The full report is available on ANCID's web site, with an extract shown below.

Pratt Water (2004) distinguished water losses and savings both in the on-farm and near-farm zones and claimed that for the Coleambally Irrigation Area (CIA) the combined savings could amount to as much as 53,000 ML from near-farm losses (although evaporation losses are hard to recover, nor is it cost effective) and 120,000 ML/yr from on-farm losses (Table 2). Losses from farms include channel seepage and deep percolation below the rootzone, while adoption of modern/new irrigation technologies such as Centre Pivot, Linear Move and Drip Irrigation, and savings from reducing rice growing area, accounted for the other potential savings. Near-farm losses comprise leakage, seepage and evaporation from the channels in CIA, but also include losses from above-ground storages (CICL has none) *and overbank flows, escapes and end of system flows in the Pratt Water Study.*

Table 1 Accounted losses and water savings in the on-farm and near farm zones

	*Accounted and identified for water savings ML/yr in the **on-farm** zone*	
Component of the system	*Previous estimates*	*Revised assessment (Pratt Water 2004)*
Seepage	*10,000*	*10,000*
Deep percolation	*35,000*	*35,000*
Irrigation technology conversion		*45,000*
Rice savings		*30,000*
Total	*45,000*	*120,000*
	*Accounted and identified for water savings ML/yr in the **near-farm** zone*	
Seepage	*15,000*	*38,000*
Evaporation	*15,000*	*15,000*
Total	*30,000*	*53,000*

The 2004 assessment of the Pratt Water Study (Table 2) is based on work by Khan et al. 2004, who based their findings on primarily the annual environmental reports of the CICL combined with local knowledge and detailed groundwater studies in the CICL area. Hence, although it might be intimated from Pratt Water reporting that new assessments meant additional measurements, this was not the case (Khan et al. 2004).

It is interesting to note that the Pratt Water Study concluded that of the three components of channel losses; leakage, seepage and evaporation, seepage is by far the greatest. This is probably based on subjective opinions, as it is difficult to distinguish between leakage and seepage.

The report goes on to conclude that, '*seasonal leakage and seepage loss of 2000 – 2600 ML/season is tentatively determined. Note that these are considerably lower than the Pratt study would suggest.*' This investigation is ongoing with final results expected within the next few months.

I was concerned that unaccounted for water losses through publication in the final Pratt Report turned into seepage losses that could be translated into water savings. Unaccounted for water could be due to a range of factors such as inaccurate metering on-farm, inaccurate metering at our river diversion point, theft and seepage, leakage and evaporation. CICL has taken the necessary steps to address metering accuracy matters as mentioned above and a security officer is employed from time to time to carry out unannounced night time inspections. Over the last two years the security officer has not uncovered any significant water theft incidents.

Metering of Stock and Tank-fill Offtakes

Tradionally all stock and tank-fill offtakes have been unmetered. However in an effort to better define CICL's system losses all diversions from the system will be metered. A program to install approx 350 meters (on all stock and tank-fill offtakes) has commenced and is expected to be completed within the next 12 months and is expected to cost in the order of $150K.

3.1.2 Investment at the Farm Level

The Coleambally Land & Water Management Plan (LWMP) was developed by the local community in response to concerns about rising watertables in the late 1980's and early 1990's. The thirty-year LWMP commenced in July 1999 with a cost-sharing commitment from the community of 86% and Government 14% of the total cost of $119m.

The objectives of the LWMP were focused on ensuring that the CIA remains viable and sustainable:

- Maintain productivity and profitability and social well being;
- Control net recharge so that the area of land affected by salinity does not exceed more than 15% of the total land area;
- Control drainage water quality;
- Manage salt loads in accordance with the Murray Darling Basin; Commission Salinity and Drainage Strategy;
- Control the external effects of groundwater flow from the CIA, and
- Address the decline in natural resource habitat in the region.

The main tools proposed to achieve the above objectives were:

- Whole Farm Planning
- Rice growing on suitable soils
- Perennial vegetation
- Landforming,

- Net Recharge management, and
- On-farm recycle systems and water storages.

Prior to irrigated agriculture, watertables were about 20 m below the surface. The area with shallow watertables (less than 2m from the surface) was predicted to rise to 50,000 hectares by 2013 and 60,000 hectares by 2023 if no further action was taken. It was predicted that at least 25% of the land area would be salt affected by 2023. Refer to section 3.2.

EM31 surveying has almost been completed for the whole CIA. This provides an excellent tool for guiding appropriate landuse on farms. Whole Farm Planning and the installation of recycle systems and on-farm storages are progressing steadily though a little behind the original targets. This is largely due to the current run of dry seasonal conditions and low water allocations and the subsequent impact on farm cash-flows.

The Coleambally community has just completed a five-year review of its Land and Water Management Plan. The community recognises the need to manage net recharge in order to ensure the long term prosperity of the region. Some hard decisions have been made by the community and these combined with some innovative measures should help to ensure that watertables can be contained even when high rainfall seasons return.

A Review Committee, in conjunction with the community, developed a number of new recommendations for the revised LWMP which had a strong emphasis on managing net recharge to the watertable and improving the local biodiversity of the region. These are outlined below.

Soil salinity

It is no secret that salt is the greatest enemy of irrigation areas. Salt contained in irrigation water can induce primary salinisation of the rootzone while salt that moves up from the groundwater into the rootzone is termed secondary salinisation. Secondary salinisation poses the greatest threat to the CIA.

The only way to control secondary salinisation in the CIA is to keep watertables below the rootzone. Primary salinisation can then be managed by utilising a small portion of irrigation water to leach salt down past the rootzone.

Net recharge management

The way to keep watertables below the rootzone is to control net recharge to the watertable. Although the original LWMP had a strong emphasis on controlling net recharge it became evident during the review that some more simple and practical methods are required for each landholder to take responsibility for the net recharge on every farm.

A number of strategies have been endorsed by the community to contain net recharge in the CIA:

- Reclassify marginal rice ground over two years using soil sodicity testing
- Rice area & total farm water use linked to net recharge for each farm
- Rice area & total farm water use linked to the area of CIA watertable less than 2m
- Cropping offset ratios that alleviate the need to reduce rice area
- Watertable target of the CIA area less than 2m reduced from 40,000 ha to 10,000 ha
- Full-time net recharge management officer to be employed
- New financial incentive for activities that reduce net recharge
- New financial incentive for change of landuse that will lead to significant reductions in net recharge.

Further research has explored the idea of using 'cropping' offset ratios to manage net recharge. The research showed that different ratios are required for different watertable depths ranging from 0.5ha of lucerne to balance the recharge from 1ha of rice with a watertable depth of 2m to 2.5ha of lucerne where the watertable depth is 3m.

The community decided that rice area should be reduced from 30% to 25% of farm area if there are not sufficient actions taken to offset the recharge caused by growing rice. One of the actions can be to utilise the Swagman Farm Model to demonstrate that net recharge for the farm is within acceptable limits. Another way is to use plants to draw out the groundwater. 'Offset ratios' have been established for this purpose. The ratio for perennial plants is 1:1 and annual crop sown into rice stubble 2:1.

If there is more than 10,000 ha of the CIA with watertables less than 2m from the surface, the rice area reduces to 21% of farm area unless sufficient 'offset works' have been undertaken to further constrain net recharge. I anticipate that the suite of Net Recharge Management Strategies will ensure that such a situation does not eventuate.

Biodiversity

A strong emphasis has been placed in the revised LWMP on the importance of maintaining and enhancing the local biodiversity. The Coleambally district is extremely fortunate to have some large areas of native vegetation remaining. Although many of these patches are not on farms, they can be complemented by protecting and enhancing what is present on farms. Areas of native vegetation on farms managed for conservation can be counted as part of an offset ratio for rice growing as outlined above.

A CIA Landscape Report and a CIA Landscape Strategy has been developed for the LWMP review. The emphasis is to help willing landholders and to encourage those who could be tempted with some expertise and financial assistance to increase the biodiversity on their farms.

The revised LWMP contains new initiatives for biodiversity which include the:

- employment of a full-time biodiversity officer;
- establishment of financial incentives for biodiversity works; and
- targets for protection, enhancement and replanting of locally native vegetation.

Catchment Action Plan

The Murrumbidgee Catchment Management Authority is currently developing the Murrumbidgee Catchment Action Plan. Although this was not available when the LWMP was being revised, its predecessor, the Murrumbidgee Blueprint was used extensively to formulate appropriate targets and actions for the CIA that link with catchment wide and state wide targets.

Murrumbidgee Catchment Management Authority

The Murrumbidgee Catchment Management Authority (MCMA) has assumed responsibility for the management of LWMPs in the Murrumbidgee catchment. A management committee comprised of agency and community representatives has been established to oversee the implementation of the Coleambally LWMP and to report to the MCMA. A good working relationship is being developed between the Coleambally community and the MCMA.

As of the 30th June 2005 landholders had invested approximately $54M in achieving LWMP related on-farm works. Government has contributed a further $8.2M as incentive payments. It is apparent that the existing programs are making huge steps forward in our district.

3.1.3 Pesticides in Drainage Water

Surface water samples are taken in accordance with CICL's Environmental Protection Licence. These water samples are analysed for a variety of different pesticides throughout the year. All analyses are carried out at a NATA approved laboratory. In addition to the drainage monitoring points identified in the licence, CICL monitors two supply sites for chemical exceedances. Table 3.1 is a summary of all pesticide analysis carried out in 2004/05. There were no exceedances of the Environmental Guideline, Notification Level or Action Level in 2004/05.

Table 3.1 2004/05 pesticide analysis summary (µg/L)

PESTICIDE	CCS	CE 160-2	CCD	CODA	CODD	DC 800A
2,4-D	No Samples Exceeded Detection Limits in 2004/05					
Atrazine	No Samples Exceeded Detection Limits in 2004/05					
Chlorpyrifos	No Samples Exceeded Detection Limits in 2004/05					
Diazinon	No Samples Exceeded Detection Limits in 2004/05					
Diuron	No Samples Exceeded Detection Limits in 2004/05					
Endosulfan I	No Samples Exceeded Detection Limits in 2004/05					
Malathion	No Samples Exceeded Detection Limits in 2004/05					
Metolachlor	No Samples Exceeded Detection Limits in 2004/05					
Molinate	No Samples Exceeded Detection Limits in 2004/05					
Simazine	No Samples Exceeded Detection Limits in 2004/05					
Thiobencarb	No Samples Exceeded Detection Limits in 2004/05					
Trifluralin	No Samples Exceeded Detection Limits in 2004/05					
Endosulphate	No Samples Exceeded Detection Limits in 2004/05					
Endosulfan II	No Samples Exceeded Detection Limits in 2004/05					

In addition to the above, the Environmental Protection Licence makes specific provision a Rice Chemical Management Program (RCMP).

The 2004 RCMP took place over a 12-week period between 5 October and 20 December 2004.

During the 2004 RCMP samples were taken once a week from 22 sites within and around the CIA as shown in Figure 3.5.

All samples were analysed at a National Association of Testing Authorities (NATA) approved laboratory using gas chromatography, testing for the presence of molinate. The main aim of this program is to ensure that CIA landholders are abiding by the 21-day rice chemical withholding period that CICL has adopted for the area.

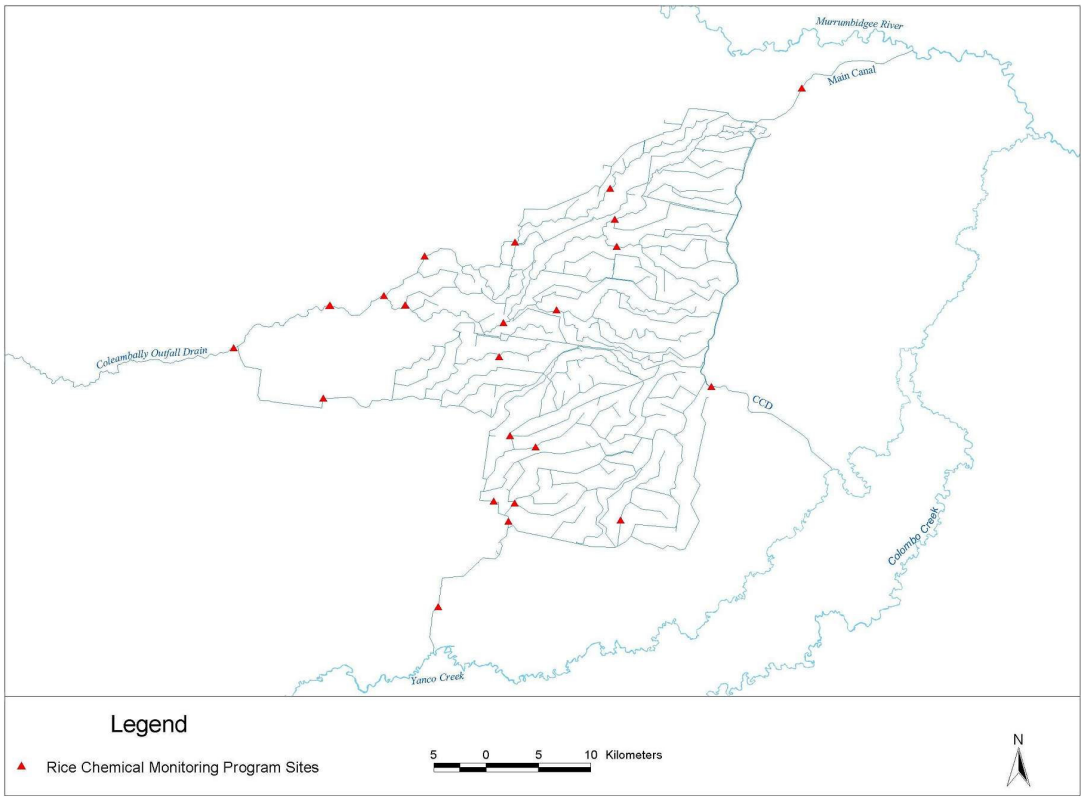


Figure 3.5 Monitoring sites of the Rice Chemical Management Program

As well as the three sites specified in the licence, 19 other sites within the irrigation area are monitored for rice chemical management purposes.

In total, 227 samples were taken from the specified sites for analysis. Some sites were not taken in some weeks due to a lack of flow. DEC sets the limits for molinate concentration in irrigation drainage water at three levels; the Environment Guideline, the Notification Level and the Action Level. For molinate these guidelines are currently as follows: Environmental Guideline – 2.5µg/L, Notification Level – 3.4µg/L and Action Level - 14µg/L. Table 3.2 shows a summary of molinate results from 1995 to 2003. This data has also been graphically represented in Figure 3.6, to show the steady improvement that has taken place since the program started in 1995 in relation to the guidelines set by DEC. The results shown indicate the proportion of detections of chemical relative to the DEC limits that applied in the season in question. The results from the monitoring program are not shown for 2002 due to a number of problems encountered with discrepancies between *Elisa Kit* results and the analysis of samples by the Environmental Management Laboratory in Melbourne. After 9 weeks of conflicting results it was established that the samples analysed by DIPNR were being contaminated by Aluminium foil sealing the sample bottles.

Table 3.2 Molinate sample summary 1995 to 2004

	1995	1996	1997	1998	1999	2000	2001	2003	2004
Below Environmental Guideline	31%	47%	48%	63%	79%	70%	78%	85%	93%
Exceeding Environmental Guideline	17%	27%	30%	29%	13%	21%	17%	15%	5%
Exceeding Notification Level	16%	12%	13%	5%	4%	7%	4%	0%	1%
Exceeding Action Level	36%	14%	9%	4%	4%	2%	1%	0.4%	0%

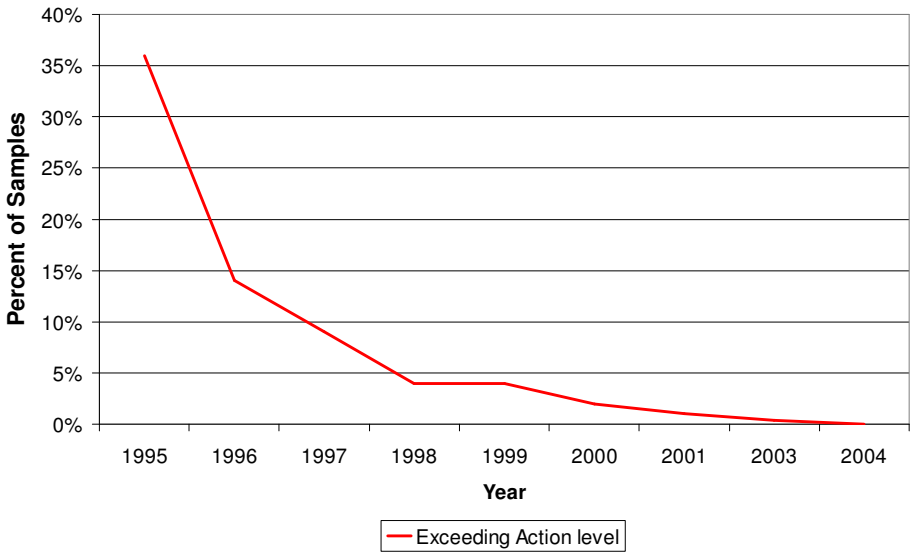


Figure 3.6 Molinate sample summary 1995 to 2004

The two discharge sites of CODA, DC800A are closely monitored for chemical returning back to the river system during the RCMP.
Figure 3.7 shows the performance of the CODA site since the program began in 1995. The data shows that in 2004 the molinate concentrations at CODA were the lowest overall since 1995. Figure 3.8 shows the levels of molinate at DC800A; indicating that overall molinate levels at DC800A were the lowest since recording began.

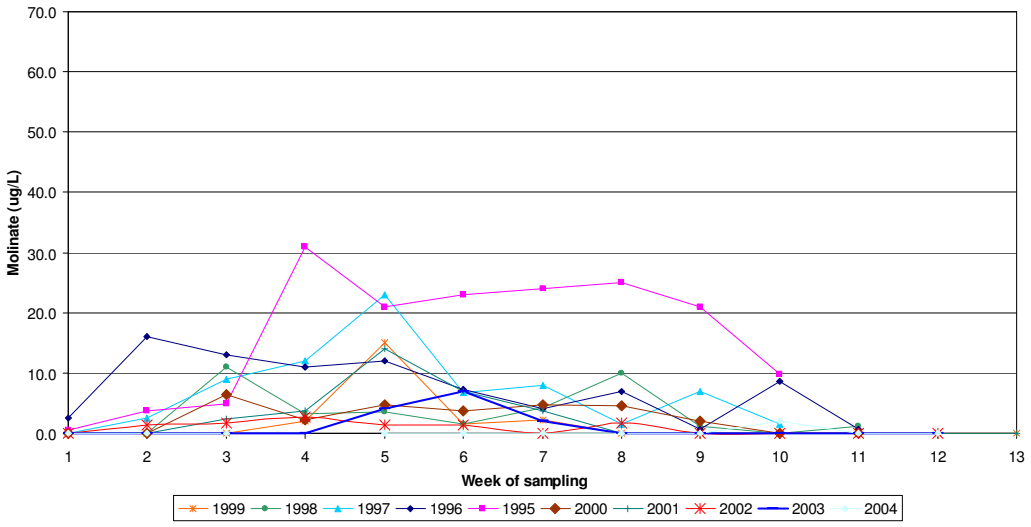


Figure 3.7 CODA molinate concentrations, 1995 to 2004

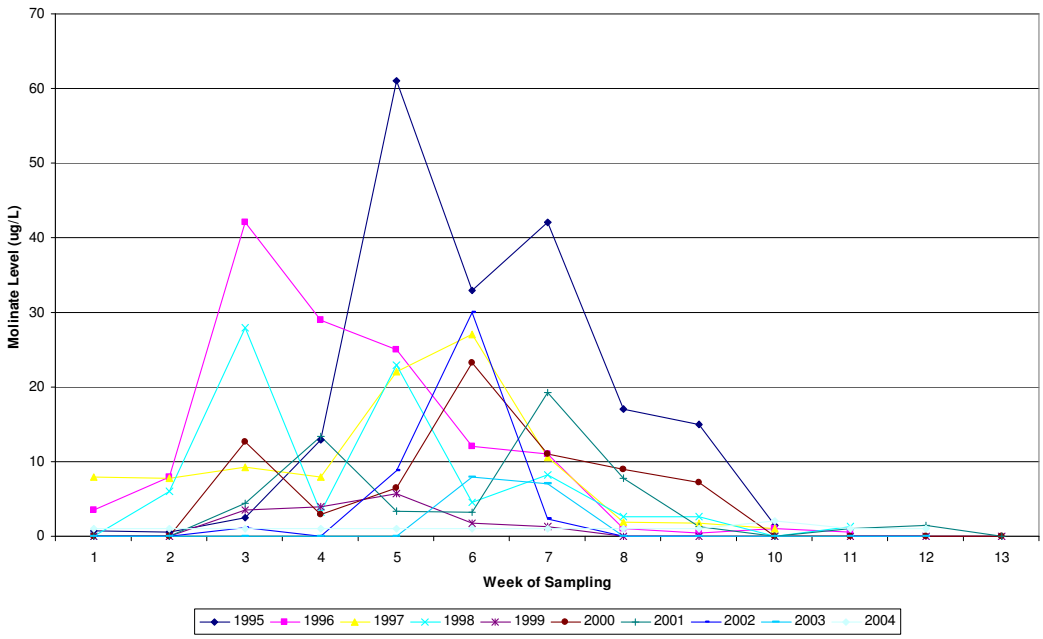


Figure 3.8 DC800A molinate concentrations, 1995 to 2004

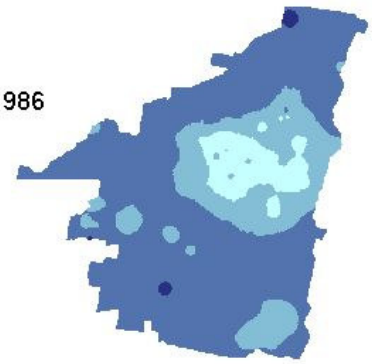
I trust you agree that since privatisation, and together with the Coleamablly Irrigation community, significant achievements have been made.

3.2 Protection of Aquifers

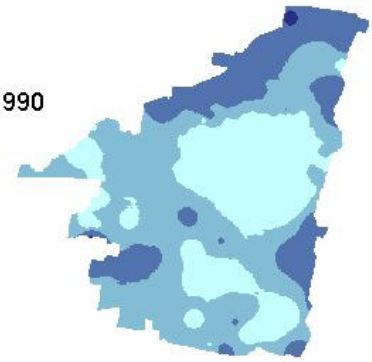
CICL carries out extensive analysis of the potential impact of irrigation activities on aquifer systems and soil salinisation.

Figures 3.9 and 3.10 are contour maps of the piezometric levels in the Coleambally Irrigation Area (CIA) for August/September over the years 1986 to 2005. These maps were produced using the inverse distance weighted method of interpolation. This method of interpolation requires input if the form of x and y coordinates for location and a z coordinate for the groundwater piezometric level. An output grid cell size of 100 metres was used. The number of neighbours sampled was 12 and a power of two was used as the exponent of distance.

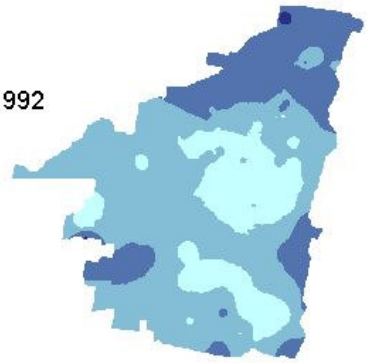
1986



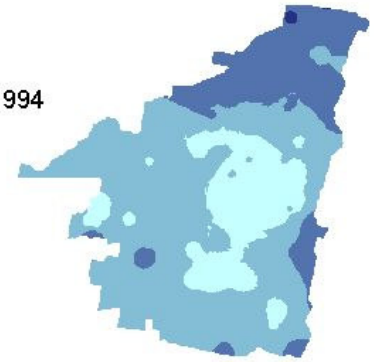
1990



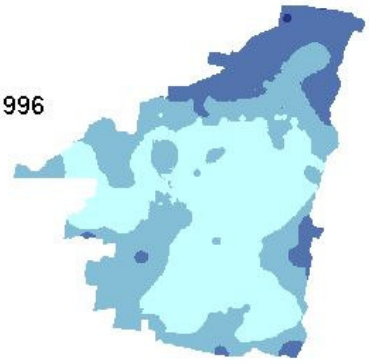
1992



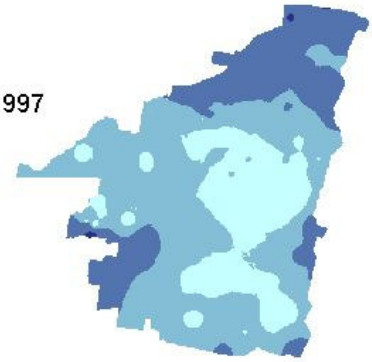
1994



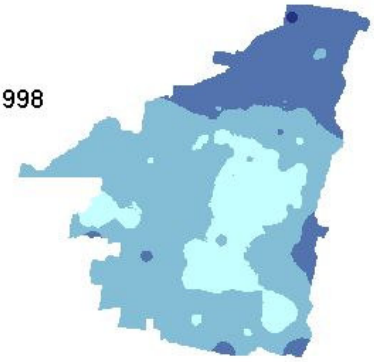
1996



1997



1998



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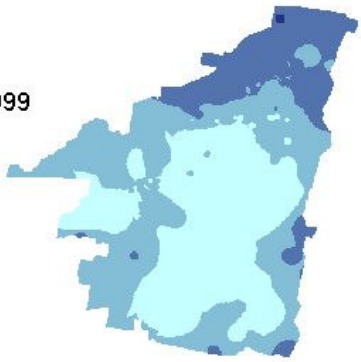

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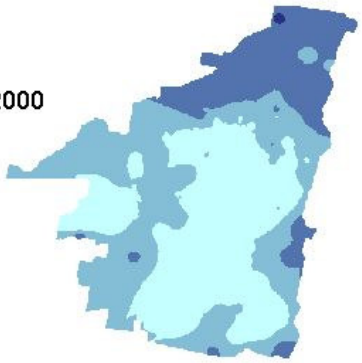

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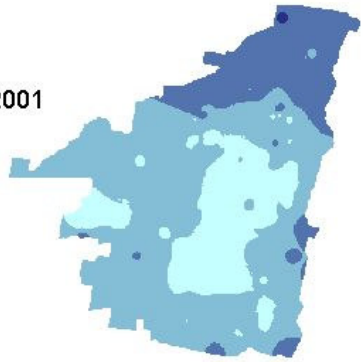

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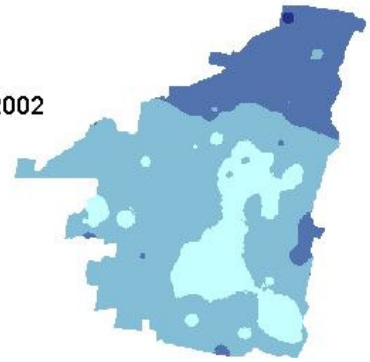
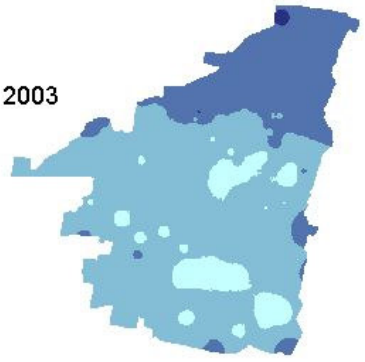


2003



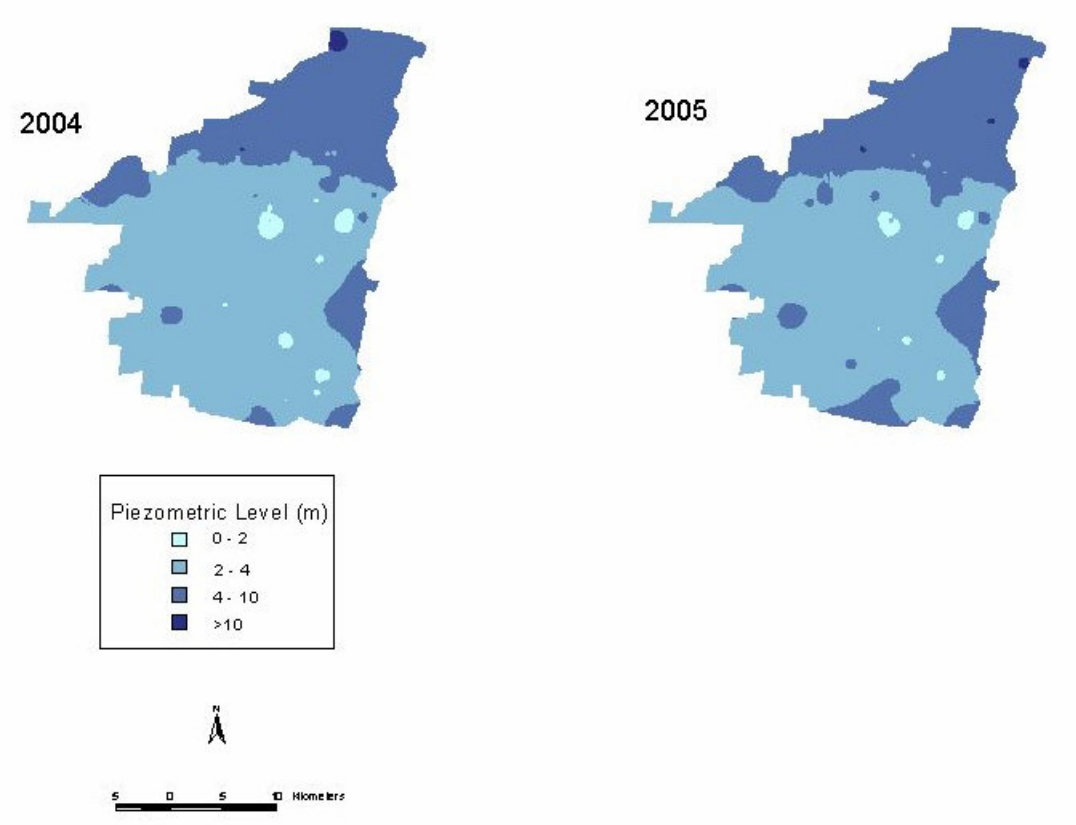
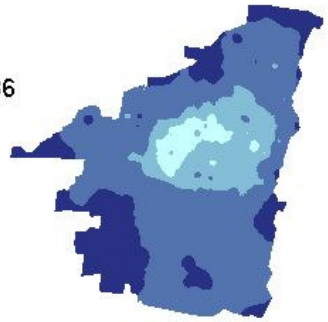
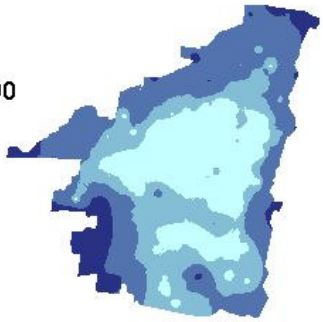


Figure 3.9 Depth to piezometric level (5-12m)

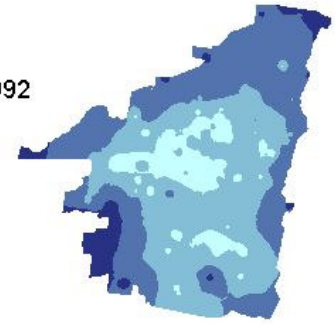
1986



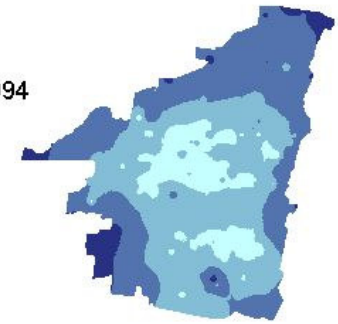
1990



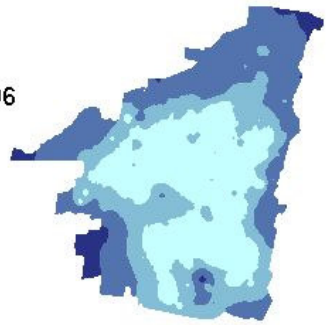
1992



1994



1996



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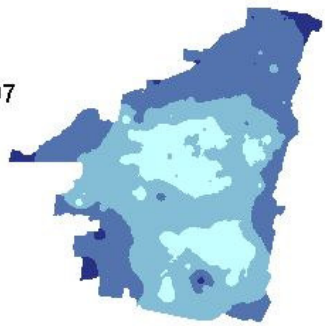

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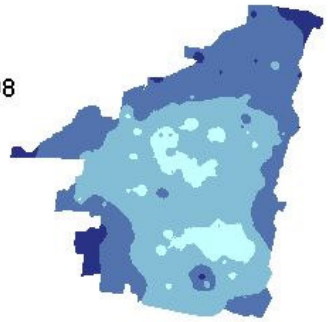

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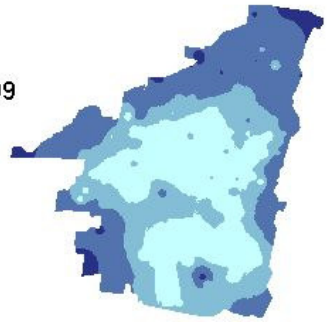
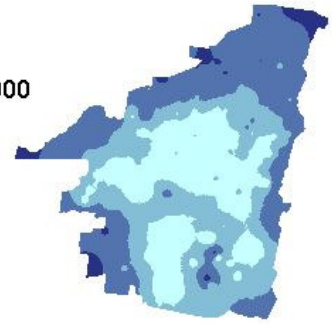
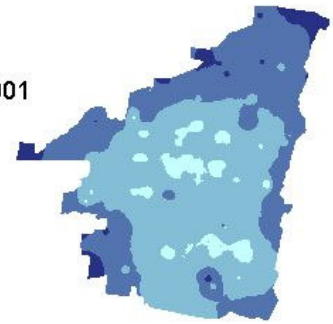


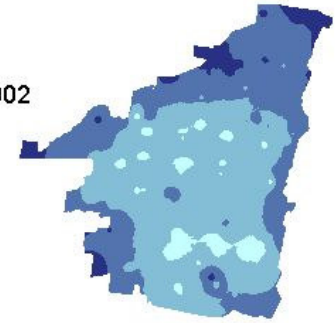
2000



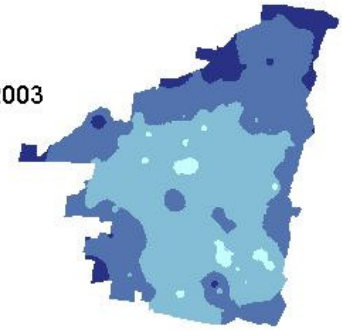
2001



2002



2003



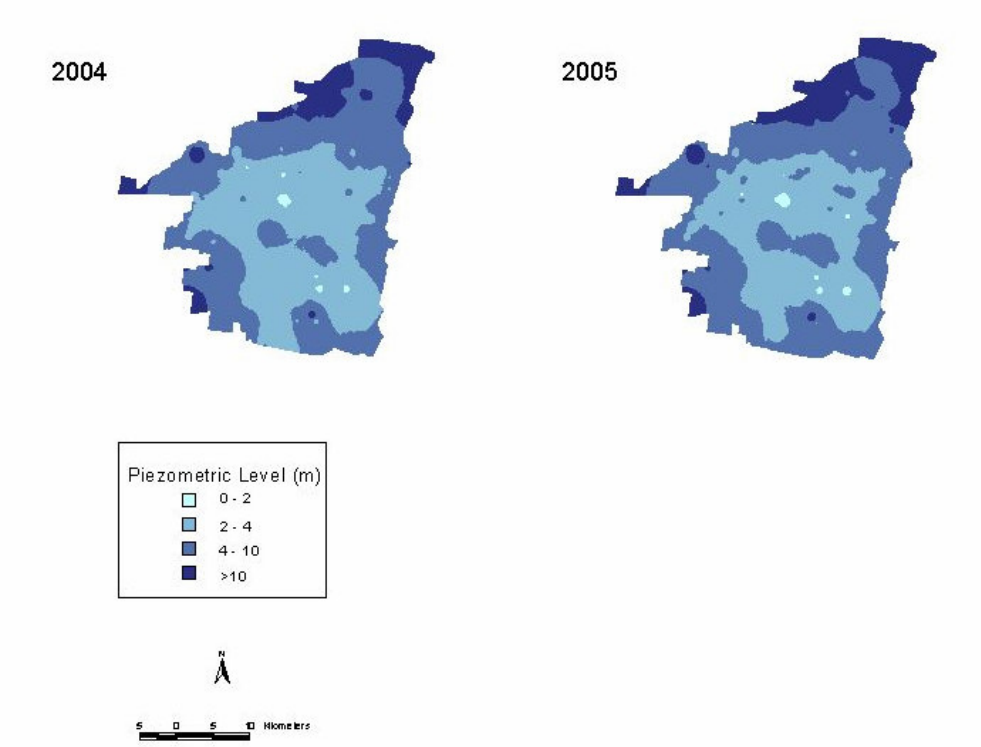


Figure 3.10 Depth to piezometric level (12-35m)

These figures along with the following tables show that there has been a continual decline in piezometric levels of both aquifers from 2002. This trend is related to drought conditions and reduced irrigation intensities and improved water distribution efficiency and improved on-farm practices. Table 3.3 and 3.4 show the areas of the CIA with watertables in various piezometric ranges. The most significant change over the past four years is the decline in area with piezometric levels between 0 and 2 meters and the subsequent increase area with piezometric levels between 4 and 10 meters. This trend is seen in both the upper and lower Shepparton aquifers.

Table 3.3 Areas of the CIA with piezometric level in various ranges (5-12m)

Piezometric level range (m)								
Area (thousands of ha), proportion of CIA in brackets (%)								
Year	**0 to 2**		**2 to 4**		**4 to 10**		**> 10**	
1986	7.6	(8)	20.6	(22)	66.9	(70)	0.5	(1)
1987	9.4	(10)	22.8	(24)	63	(66)	0.4	(0)
1990	30.1	(32)	44.5	(47)	20.7	(22)	0.3	(0)
1992	19.1	(20)	53.2	(56)	23.1	(24)	0.2	(0)
1994	18.1	(19)	57	(60)	20.3	(21)	0.2	(0)
1996	44	(46)	35.9	(38)	15.5	(16)	0.1	(0)
1997	22.2	(23)	49.5	(52)	23.8	(25)	0.2	(0)
1998	19.1	(20)	55.1	(58)	21.2	(22)	0.1	(0)
1999	39.2	(41)	39.3	(41)	17	(18)	0.1	(0)
2000	38.9	(41)	37.5	(39)	19.1	(20)	0.1	(0)
2001	20.9	(22)	55.5	(58)	19.3	(20)	0.2	(0)
2002	17.1	(18)	57.8	(60)	20.8	(22)	0.2	(0)
2003	9.1	(9)	62.2	(65)	24.2	(25)	0.3	(0)
2004	1.5	(2)	64.0	(67)	29.9	(31)	0.4	(0)
2005	0.9	(1)	58.4	(61)	36.3	(38)	0.2	(0)

Table 3.4 Areas of the CIA with piezometric level in various ranges (12-35m)

Piezometric level range (m)								
Area (thousands of ha), proportion of CIA in brackets (%)								
Year	**0 to 2**		**2 to 4**		**4 to 10**		**> 10**	
1986	4.1	(4)	13.9	(15)	56.4	(59)	21.1	(22)
1987	5	(5)	15.5	(16)	57.6	(60)	17.5	(18)
1990	25.8	(27)	26.6	(28)	35.6	(37)	7.6	(8)
1992	10.5	(11)	40.8	(43)	38.4	(40)	5.9	(6)
1994	12.6	(13)	40.6	(42)	38.1	(40)	4.4	(5)
1996	34.1	(36)	26	(27)	32	(33)	3.5	(4)
1997	17.3	(18)	40	(42)	35.9	(38)	2.4	(2)
1998	8.7	(9)	45.4	(47)	37.4	(39)	4.2	(4)
1999	30.7	(32)	28.4	(30)	33.5	(35)	3.0	(3)
2000	26.8	(28)	31.3	(33)	34.4	(36)	3.1	(3)
2001	5.4	(6)	49.4	(52)	37.2	(39)	3.9	(4)
2002	4.8	(5)	50	(52)	35.8	(37)	5.3	(6)
2003	1.8	(2)	46.2	(48)	40.0	(42)	7.8	(8)
2004	0.4	(0)	41.2	(43)	43.8	(46)	10.4	(11)
2005	0.5	(1)	35.1	(37)	47.1	(49)	13.1	(14)

Hydrographs of watertables in the CIA have been created from the piezometric levels. Geometric means from each data set have been used to produce the hydrographs. When the data is examined, most sets show a skewed distribution. For this reason, the geometric mean is believed to be a more appropriate descriptor of the datasets then the arithmetic mean.

Figure 3.11 is a summary of the September depths for the entire CIA. In 2005, the downward trend in September piezometric levels for the lower and upper Shepparton aquifers continued. This trend commenced in 2002, corresponding to the onset of drought conditions, start of the TCC program and rolling out of the LWMP incentives program.

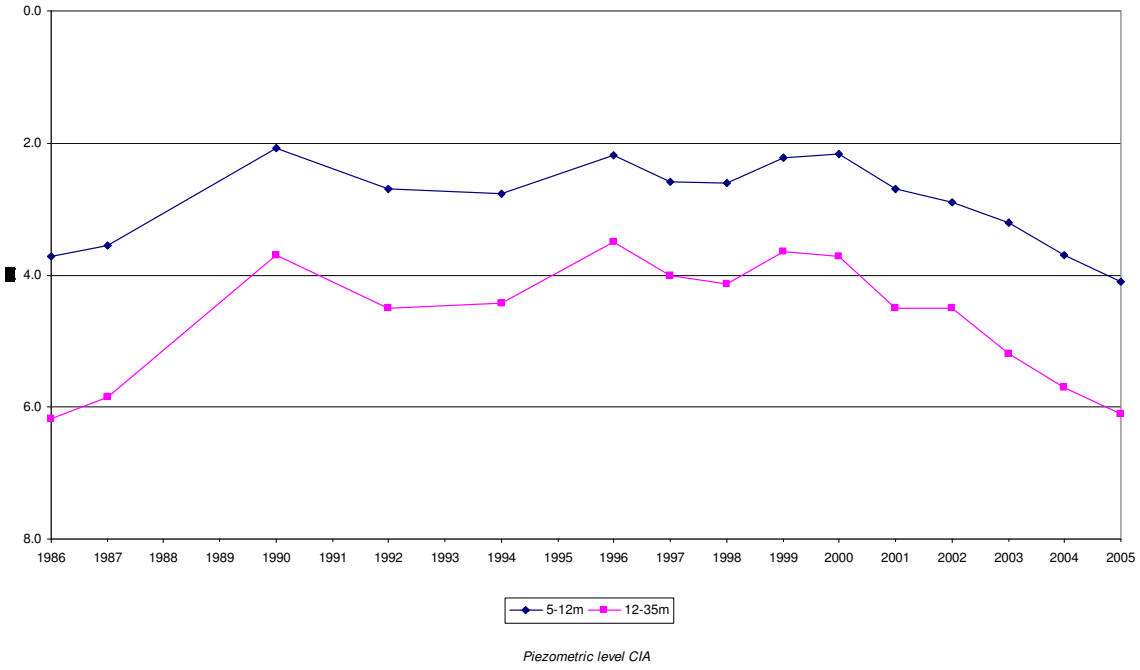


Figure 3.11 Piezometric level Coleambally Irrigation Area

4.0 FARMING INNOVATION

I believe that Coleambally Irrigation Co-operative Limited (CICL) is playing its part in improving environmental outcomes within the Basin. Our community has developed our Land and Water Management Plan with input by Government. It is being implemented and delivering real and measurable positive environmental outcomes. It soundly places CICL and the district it serveson a path of continual improvement. This was largely discussed in Section 3.1.2.

In addition, CICL took part in a pilot scheme with the MDBC in developing and implementing Farm Management Plans that target long term sustainability of the individual farming enterprises and put it within the context of basin wide environmental outcomes. These are now encapsulated within our community's LWMP, with CICL providing the implementation service.

I trust you agree that the achievements shown in Table 4.1 are extremely positive, particularly given the hardship faced by individual farming enterprises during the current drought.

Table 4.1 Progress against milestones during 2003/04 and 2004/05

Milestones	Targets under the contract	Completed 03/04	Completed 04/05	Total
Net Recharge Management (soil, water, crop and groundwater relationship)	NRM implemented on 20 farms	6	3	9
Whole Farm Plans	70 farms meet LWMP criteria	45	29	74
EM- 31 surveying	Additional 10,000 ha is surveyed	Survey 5,873 ha Map 7,044 ha Drill 2,095 ha	Survey 3,442 ha Map 4,349 ha Drill 1,217 ha	Survey 9,315 ha Map 11,393 ha Drill 3,312 ha
Pressurised Irrigation	Pressurised irrigation systems are installed on 8 farms	7	9	16
Water Quality	Install recycling systems on 50 farms	45	19	59
	Install storage on 5 farms	4	5	9
Landholder Awareness, Education and capacity building	Conduct annual landholder survey	Completed	Completed	100%
Biodiversity	Conduct annual survey and 5 yearly benchmarking surveys during 2003-04	Completed	Completed	Reports publicly available
	Publish the handbook.		Completed	100%

5.0 MONITORING DROUGHT AND PREDICTING FARM WATER DEMAND

The last three years in the Murrumbidgee Valley have established three new record low water allocation levels.

Research and development of crop varieties continues to play a key role in the commecialisation of varieties that require less water to achieve optimum production levels. This is clearly evident with the new rice varieties that exhibit a much shorter growing period.

Our customers through the implementation of Land and Water Management Plan initiatives continue to improve their on-farm delivery systems to maximize production capacity per megalitre of water. Similarly CICL through its continued investment in new technologies and system loss minimization initiatives maximizes water availability to our customers.

CICL is involved with the CSIRO in examining the effects of climate change on our district. As such CICL is aware of modeling results that predict increases in the variability of rainfall and slight increases in maximum temperatures.

CICL closely monitors both it and its customers performance against a range of productivity and efficiency benchmarks to ensure that strategies are delivering continual improvement across the suite of water use efficiency targets.

6.0 THE IMPLICATIONS FOR AGRICULTURE OF PREDICTED CHANGES IN PATTERNS OF PRECIPITATION AND TEMPERATURE

CICL engaged Sinclair Knight Merz (SKM) to review and analyse a survey of customers. Whilst the main objective of the survey was to determine the level of private expenditure in the 2004/05 financial year for works prescribed under the Coleambally LWMP, the survey also provided information on changes to cropping systems in the district.

A questionnaire covering land and water management issues was sent out to 69 landholders in the CIA however only 53 responses were collated. This represents 12% of CICL landholder base.

Eleven landholders or 22 percent of respondents reported that their enterprise mix had changed in the past year. Of those who reported changes, farms comprised an average of 93 percent irrigated land and 7 percent dryland (or other). Of those respondents reporting a change in enterprise mix in 2004/05, the predominant farming type is winter cereals, with 100 percent of farms participating in this enterprise. Livestock (70 percent), pasture (60 percent) and rice (60 percent) are also common, with row crop (20 percent) the least common. Of those farms reporting a change in enterprise mix, all (100 percent) reported an increase in cereal crops whilst 50 percent of farms reported an increase in pasture paddocks. One farm reported a decrease in rice planting.

Nine landholders or 18 percent of respondents reported that they had undertaken works to decrease rice water use in 2004/05. Methods identified included EM-31 – two respondents (no cost), sodicity testing ($22 per sample), changing the variety of rice (cost = 'just a loss of profit'), re-lasered ($6,500), more attention paid to water levels – two respondents ('more man hours'), and 'flush dry sown' ('water saving').

Twenty-one landholders (43 percent of respondents) altered cropping systems away from rice in 2004/05. Alterations included simply not growing rice (three respondents) and growing other crops (five respondents). Several respondents said they had altered their cropping systems but identified water restrictions as the main driver of change. Most respondents identified only the change or the

cost, not both. Winter crops required less water and as a result quite a number of farmers opted to maximize winter plantings at the expense of summer crops that are traditionally more profitable. It is therefore reasonable to expect that this data is somewhat skewed as a result of drought and the corresponding low water allocations.

Thirty-six landholders or 68 percent of respondents used conservation tillage techniques in 2004/05. Approximately 16,972 ha was tilled across the CIA using these techniques. The costs associated with conservation tillage techniques ranged considerably in scope and value, i.e. more than half the respondents reported there was no cost ($0), whilst other respondents named a $55,000 seeder and a $100,000 tractor. The overall expenditure across the CIA, (using all answers provided in the survey) was $1.08 million; however the significance of this figure is questionable.

Forty-two landholders or 82 percent of respondents had undertaken channel improvements such as clay-lining, cleaning and spraying, in 2004/05. This made channel improvements the most common form of works (new or maintenance) undertaken on farms. The total cost across the CIA was estimated to be $828,854. 'Own time' was generally the greatest expense.

Table 6.1 provides a snapshot of the crops grown in CICL's operational area in 2004/05.

Table 6.1 Irrigated crop areas within CICL's operational area

	CIA (ha)	Kerarbury (ha)	Outfall District (ha)	Total District (ha)	Proportion of total irrigated crop area (%)
WHEAT	18450.7	983	853	20286.7	29.60%
RICE	6985	368	789	8142	11.88%
PASTURE	8870.7	1417	2577	12864.7	18.77%
BARLEY	5281.4	490	60	5831.4	8.51%
OATS	2637.6	270	265.3	3172.9	4.63%
CANOLA	2441.4	100	140	2681.4	3.91%
TRITICALE	1991.6	12	40	2043.6	2.98%
CORN	1964.5	1706	0	3670.5	5.36%
FALLOW	1891	0	44	1935	2.82%
SUMMER PASTURE	1565.9	0	2	1567.9	2.29%
SOYBEANS	1285.2	50	160	1495.2	2.18%
SORGHUM	988	0	13	1001	1.46%
WINTER PASTURE	591.6	200	0	791.6	1.16%
LUCERNE	556.5	0	60	616.5	0.90%
SUNFLOWER	295	170	0	465	0.68%
MILLET	272	75	52	399	0.58%
MAIZE	152.5	0	0	152.5	0.22%
FOREST	137	0	0	137	0.20%
FABA BEANS	98	174	0	272	0.40%
GRAPES	78	40	0	118	0.17%
LUPINS	63.7	0	0	63.7	0.09%
OTHER	61	0	0	61	0.09%
PRUNES	58	80	0	138	0.20%
OLIVES	49	0	0	49	0.07%
STOCK - DAMS	38.5	2	18	58.5	0.09%
POTATOES	28.3	0	0	28.3	0.04%
PEAS	25	0	0	25	0.04%
AZUKI BEANS	22	0	0	22	0.03%
FODDER	12	0	100	112	0.16%
ONIONS	11	0	0	11	0.02%
PUMPKINS	10.5	0	0	10.5	0.02%
CLOVER	6.5	0	170	176.5	0.26%
GREEN MANURE	3.4	0	0	3.4	0.00%
TOMATOES	3.2	110	0	113.2	0.17%
LAB LAB	3	0	0	3	0.00%
LATHURAS	3	0	0	3	0.00%
MISCELLANEOUS	3	0	0	3	0.00%
NOT DEFINED	0	0	0	0	0.00%
Total	**56934.7**	**6247**	**5343.3**	**68525**	**100**

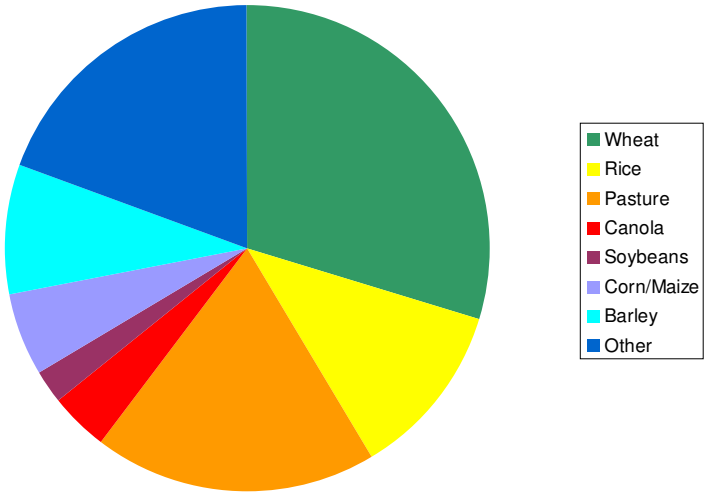


Figure 6.1 Proportions of total irrigated area sown to various crops within CICL's operational area

Table 6.2 Comparison of major land uses in CICL's operational area in the past eight years

	Rice		Soybeans		Corn		Wheat		Pastures		Canola	
	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)
2004/05	8142	43.98	1495	2.24	3671	7.19	20287	18.80	12865	10.80	2681	1.27
2003/04	12597	55.8	1938	3.5	3545	5.7	21192	14.98	12131	7.5	1763	0.7
2002/03	11395	46	1788	1	4788	9.3	21346	20.4	10183	7.4	2095	1.7
2001/02	27493	67.5	3297	3.4	3808	4.2	21103	9.2	11581	6.1	2191	0.6
2000/01	30440	73.9	4551	5.9	4074	5.7	14276	4.6	11998	4.7	2153	0.4
1999/00	24138	77.7	2185	3.9	1178	3.1	12649	6.1	7485	4.4	2152	0.7
1998/99	24491	73.8	4339	5.7	1059	1.3	13963	1.7	13879	8.1	2184	1.7
1997/98	24624	70.4	4998	7.5	1678	2.4	14943	7.4	9964	6.1	2053	0.4

In comparison to 1999/00 the area of crops other than rice was 30,497 ha and has doubled in 2003/04 and 2004/05 to over 60,000ha. Whilst the area of rice crop has reduced by two thirds from 24,138ha in 1999/00 to 8,142ha in 2004/05. You may recall recent media attention associated with an ABARE report that flagged huge increases in areas under rice. This report was further promoted by luminaries such as Professor Cullen. The fact that this report was reporting data current to 2001 appeared to be lost. The irrigation environment has undergone considerable change as a result of water reform since 2001. This makes the 2001 data as espoused recently by Professor Cullen and others dangerously misleading. Our communities expect and deserve better. I offer the following facts on rice area to demonstrate my point.

CROP YEAR	**TOTAL HECTARES HARVESTED**
C1993	122,902
C1994	132,656
C1995	129,235
C1996	149,719
C1997	165,701
C1998	140,190
C1999	150,826
C2000	131,843
C2001	184,470
C2002	147,268
C2003	38,356
C2004	64,735

Average hectares for the past 5 crops (C2000 - C2004) = 113,334
Average hectares for the 5 years prior to this (C1995 - C1999) = 147,134
Therefore there was a reduction of 23%.

If you compare 5 year trends leaving out the drought years there has been a slight increase i.e.
Average hectares for C1993 - C1997 = 140,043
Average hectares for C1998 - C2002 = 150,919
Therefore a 7.8% increase. However the big crop of C2001 really needs to be discounted as it skews the results. This crop was an aberration because there was a huge amount of 'off allocation water (or supplementary water)' available that year, i.e. was before the off-allocation rules changed. This size crop will never be grown again. These are hard figures and vary considerably from those presented. The aberrant 2001 figure skewed ABARE's results. One needs to be careful to analyse the data in the first instance. The Irrigation Corporations in NSW are required to provide detailed environmental reporting each year. As part of this reporting a wide variety of data are systematically captured and presented. See the figure below to gauge rice performance in the Coleambally Irrigation District (CID) since 1985/86. This is significantly at odds with data presented by Professor Cullen and others who also suggested a 19% increase in rice water use over the last 5 years. In terms of the CID this is clearly unsupported by the

facts. What does become apparent is that the water use efficiency is continuing to improve. Perhaps this is an aspect that could be examined more closely in future.

In guiding Government policy development much more care needs to be given to data capture and analysis. I suggest that industry should be engaged to assist in reviewing relevant data such that ensures both its relevance and rigor.

7.0 IMPACT OF WATER REFORM

In opening the recent ANCID Conference in Mildura the Federal Minister for Agriculture, Fisheries and Forestry, Minister McGauran said in relation to water reform initiatives that, "*Rural Communities should not be punished for past Government decision*s." Whilst I applaud the Minister's sentiment, rural communities remain to be convinced that this will be borne out by the facts as water reform has already significantly impacted adversely on many regional communities.

7.1 Privatisation

The National Competition Council's – National Competition Payments – Third Tranche Assessment Framework states in relation to irrigation scheme management that (P 8.12).

> "*Jurisdictions endorsed the principle that constituents be given a greater degree of responsibility for the management of irrigation areas citing, as example, the potential devolution of operational responsibility subject to the establishment of an appropriate regulatory framework.*
>
> *In conducting the third tranche assessment, the Council will look for all impediments to devolution to have been removed and local management arrangements identified in the second tranche assessment to have been implemented……..*"

In terms of NSW, Irrigation Areas were privatised. The Coleambally community has taken what has been effectively rundown State irrigation assets and systematically refurbished these assets in line with our expectations of achieving long-term sustainability, without leaving a legacy cost for future generations.

7.2 Impact of Past Legislation

For your information I have shown below an extract of NSW Government Gazette No.31 dated 5 April, 1963 that relates to 'large area' Coleambally farms:

> *The lands within each holding shall not be used to plant an area of fruit trees or vines in excess of 1 acre.*

This gazettal significantly constrained more intensive irrigation developments in the Coleambally Irrigation Area, particularly in relation to Governments' current view and the mantra of increased trade seeing water move to so-called 'high value crops'. Effectively Government has tightly controlled such an outcome in relation to our Irrigation Area. My understanding is that the above Gazettal was effectively recinded with the deregulation of 1993-94. However this 'favoured status' provided to other areas allowed the critical mass of horticultural crops to develop and then spawn the value adding secondary industires. As you would appreciate, it then becomes much more difficult for industries to relocate to more efficient growing areas. As such the Coleambally area has been significantly disadvantaged by the above mentioned Government gazettal.

On a related matter I find it useful in looking at the relative efficiency of the various irrigation schemes; for example the ratio of land served per kilometre of supply channel. In the case of our co-operative this is in the order of 200 hectares of land served per kilometre of delivery channel as compared to approximately 70km for Goulburn Murray, 67km for Rochester and 138km for the Burdekin River Irrigation Area. I suspect it was for this and farm scale reasons that Government sort to make the CIA less competitive in attracting alternative crops to the District.

7.3 Impact of Water Trading

CICL and our shareholders are committed to a path of continual improvement and we are working closely with the other irrigation corporations in New South Wales to establish suitable mechanisms in terms of water trading.

However I have concerns about the supposed openness of developing water markets. Take for example the transfer of large volumes of water from the Golburn Murray (GM) to the Sunraysia district. Over 46,000 megalitres has moved from GM to Sunraysia and a further 26,000 megalitres is expected to move insoon. Water is largely moving to almond production via a *Timbercorp* development. Could the *Timbercorp* development have been facilitated in the Golburn Murray district if the same level of inducements had been provided? What becomes more interesting is how this water transfer will impact on existing water users downstream of the Barmah choke during periods of peak irrigation

demand i.e. will the supplies to existing irrigators be restricted as a result of this transferred demand? This is not to mention the further drift from seasonal flow variations and extending related impacts over a longer reach of the river. Perhaps there are no such impacts?

7.4 Water Moving to High Value Crops

CICL is concerned that profitability does not appear to be considered in Governments' understanding of just what makes a 'high value' crop. Wine grapes are a classic example, yet 80% of growers remain unprofitable under the current production and marketing regime. It would be useful for politicians, academics and the wider community to gain a clear understanding of this seemingly very important term. It is suggesting that in providing this definition the deficiencies in understanding will be exposed.

Structural adjustment packages have been a mechanism of Government to assist with the transition to other cropping systems. For example such a package was established to achieve stepped changes to 'high value' crops in association with deregulation of the tobacco and dairy industries on the Atherton Tablelands in Far North Queensland. Whilst easing some of the pain the lasting outcomes in reality have not been overly encouraging. There are now approximately 154 different crops grown on the Tablelands, many of which remain very close to the break-even line. The viability of many of these crops can change by just a few large area farms switching production. Perceived high value crops are generally associated with niche markets and niche markets by their very nature are fickle. Well-structured industries that may involve significant areas, but also have relatively stable and organised markets often have an extrinsic value that to date has not been recognised as part of the water debate in terms of the value of cropping systems.

Today's supposed high value use may well be in oversupply within a very short period of time. Luminaries such as Professor Cullen promote high value crops such as wine grapes and vegetables apparently without any knowledge of the industries or discussion of such matters as 'profitability'. Such well intended but poorly understood commentary only serves to promulgate a boom bust economic environment in rural Australia and is extremely dangerous in terms of Government policy development. Debate in this area appears to be somewhat jaundiced. Note the disparate views on rice between ABARE and the Productivity Commission below.

….when debate or queries arise about the validity of the gross margin (GM) in decision analysis, then the GM is not the correct technique. Almost always, in such cases, what is needed is partial and whole farm budgeting, not simple GM analysis. Often GMs are asked to do far more than they were intended for or are equipped to do. Widespread misuse of the GM concept and technique has lead in some quarters to the gross margin earning the unflattering title 'the gross illusion'. *(Makejham and Malcolm 1993, p.338)*

The Productivity Commission[1] went on to say, *there are three reasons why gross margins per megalitre are not a useful indicator of the benefits of water reform*:

1. *Gross margins per megalitre are an average rather than a marginal measure of the productivity of water.*
2. *When considering productivity, other inputs used by irrigators such as capital and labour also need to be included.*
3. *Gross margins per megalitre usually do not capture the price volatility that can characterise agricultural commodity markets.*

In addition there is no account for risk the water user is prepared to accept in undertaking his business.

The Commission goes on to conclude that, *gross margins do not provide a sound basis for illustrating the net economic benefits of water trade across farming enterprises. The greatest economic return from the share of water allocated to irrigation will occur when irrigation water use is optimized in conjunction with other factors of production such as land, labour and capital.* (Productivity Commission -Douglas R., Dwyer G., and Peterson D., Activity gross margins and water reform)

It is also possibly worthwhile providing you with a simple 'real' example of water moving to '*more profitable uses*'. The example used is the case of water moving to the entity that paid the most for it (market power) as distinct from my interpretation of the *more profitable use.* With the demise of the tobacco industry in Far North Queensland many farmers in the Mareeba Dimbulah Irrigation Area moved to tea tree oil production. For three years they were achieving returns of up to $50/litre, whilst not as profitable as tobacco production, it was eminently viable - no doubt a high value use under the populus definition.

A large corporation (established as a tax minimisation venture) with investors from southern states established in the area, purchased water and increased tea tree production by over 100%. The glut of tea tree oil on the market saw the price collapse to below $15/litre, or approximately $10/litre below cost of production. Needless to say that the corporation ultimately went into liquidation as willing investors dried up. Unfortunately they took many smaller tea tree farmers with them as the market became horribly skewed. Tea tree oil production is clawing its way back but still is achieving little more than cost of production. I suggest that this scenario could be replicated with aloe vera, some corporate timber arrangements (with tax minisation as the driver for development), some large areas of olive production, and some areas of grape production (look at grape production that has been dumped last year, with a growing volume expected this year). I trust that by way of example I have demonstrated how good intentions, with little knowledge of markets is extremely dangerous, especially when guiding Government policy development.

7.5 Level Playing Field with Agriculture

The Government has continued to withdraw subsidy support for agricultural production on the basis that they can't compete with the subsidies provided by other nations as a result of the relative size of our economy. Australia rightly argues for the removal of all trade restrictive boundaries such as subsidies on the basis that Australian farmers are amongst the most efficient in the world. Whilst this may be true, subsidies can exist at various levels.

Take for example water, where the majority of costs for international competitors are met by their Governments. In New South Wales we have State Water currently making a submission to IPART requesting a move to 'Upper Bound' pricing as defined within the 19994 CoAG Agreement. State Water's table of increased costs is shown as Attachment B. These charges slate all costs to irrigators and recognize no other beneficiaries whilst providing a very substantial dividend to Government.

State Water in its IPART submission suggests that it takes its direction from the National Water Initiative. However, a recent Media Release by the Hon. Gary Nairn MP (Attachment A) suggests that this will not be tolerated – but where does this leave irrigators?

The Financial Review (10th November 2005) states that,

> *The prospects of a landmark deal on trade liberalization in Hong Kong next month appeared increasingly remote yesterday as the World Trade Organisation went into damage control to prevent the collapse of the Doha round.*
>
> *The head of the WTO, Pascal Lamy, held crisis talks in Geneva with key trade ministers in an attempt to develop a fall-back position for the Hong Kong meeting, which would defer until next year the most difficult issues – particularly agriculture – obstructing an agreement on a detailed framework for a final Doha agreement by the end of next year*.

Whilst other nations obfuscate the WTO on agricultural subsidies we have Governments in Australia withdrawing anything that could be considered a subsidy to the extent that very substantial windfall gains are passed to government by farmers. It is little wonder that many farmers feel that they have been cut adrift by their own government.

Attachment A

Media Release
9 November 2005

Selective implementation of water reforms won't be tolerated

Parliamentary Secretary to the Prime Minister, Gary Nairn, today warned that the selective implementation of the National Water Initiative (NWI) reforms would not be tolerated.

Mr Nairn, who is assisting the Prime Minister on NWI matters, said that State and Territory Governments agreed to the suite of water reforms in the NWI and the expectation is that those reforms will be implemented in their entirety.

Water pricing submissions from both the Department of Natural Resources and State Water currently before the Independent Pricing and Regulatory Tribunal (IPART) in New South Wales (NSW), if implemented, would see an increase in water pricing across NSW from anywhere between 23% and over 3000%.

"By putting these unconstrained prices before the IPART, NSW has signaled its intentions in relation to rural water pricing.
"Understandably rural communities are concerned that NSW is selectively using the NWI as a justification to raise prices and deliver a further dividend to state coffers at their expense." Mr Nairn said.

The NWI does commit to more accurate pricing of water, but it also provides that water pricing be implemented in a manner that avoids perverse or unintended pricing outcomes and that any increases in price are justified and transparently reported.

Improved water pricing is one aspect of the NWI and it needs to be implemented in the context of an integrated planning and risk assignment framework, robust measurement and monitoring, more open water trading and the delivery of clearly defined and secure entitlements.

"Together the NWI reforms will create certainty and drive real long term investment across rural Australia but unless they are implemented in their entirety the integrity of the reform agenda will be put at risk. " Mr Nairn said.

"I can assure water users that any selective, revenue driven implementation of the NWI reforms will not be tolerated.

"If there is a case to be made that NSW, or any other jurisdiction, is selectively implementing the NWI reforms in a manner that compromises the intent of the NWI then we will need to review that in the context of the current NCP assessment process." Mr Nairn said.

"If using the NCP assessments will deliver an equitable outcome and ensures the jurisdictions do not shirk on their commitments then this is an avenue that is available to government." Mr Nairn said.

Attachment B

Table 10.7 below has been extracted from State Water's recent submission to the Independent Pricing and Regulatory Tribunal (IPART). It demonstrates the impact of proposed prices as a percentage of the previous year. In particular attention in drawn to 2006/07. In terms of the Murrumbidgee whilst General Security water entitlement holders can expect to have their prices decline by 5.1% General Security water entitlement holders within the Irrigation Corporations can expect to have their prices increase by approximately 35%.

What business, other than a Government monopoly could suggest such price increases?

HS = High Security Water
GS = General Security Water

TABLE 10.7 impacts of UNCONSTRAINED prices on customer bills

% change from previous year

	2006/07		2007/08		2008/09	
TOTAL BILL	HS	GS	HS	GS	HS	GS
Border Rivers	178.9%	112.2%	1.5%	1.5%	-5.4%	1.4%
Gwydir	265.5%	146.2%	1.9%	1.9%	-2.1%	4.5%
Namoi	144.1%	102.5%	3.4%	3.4%	-1.5%	5.3%
Peel	377.5%	102.0%	5.2%	5.2%	6.1%	18.5%
Macquarie	249.7%	117.0%	1.9%	1.9%	0.0%	6.9%
Lachlan	193.3%	58.5%	3.4%	3.4%	-0.1%	6.6%
Murrumbidgee	23.2%	-5.1%	1.6%	1.6%	2.5%	0.3%
Murray	84.4%	72.5%	6.0%	6.0%	5.1%	4.6%
North Coast	3979.2%	1196.7%	4.1%	4.1%	12.3%	-1.3%
Hunter	323.4%	132.6%	2.0%	2.0%	-1.8%	5.0%
South Coast	781.3%	484.3%	1.2%	1.2%	2.1%	-1.3%