District Council 3
January 2011

SUBMISSION
TO
THE INQUIRY INTO THE IMPACT OF THE MURRAY DARLING BASIN PLAN IN REGIONAL AUSTRALIA

JANUARY 2011

By

United Dairy Farmers of Victoria District Council 3

The United Dairy Farmers of Victoria District Council 3 covers the following areas: Benalla, Cobram, Katandra, Invergordon, Katunga, Nathalia and Strathmerton.

We are all volunteers within the District Council and work to further the issues of our local dairy farming community.

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Background/Introduction:

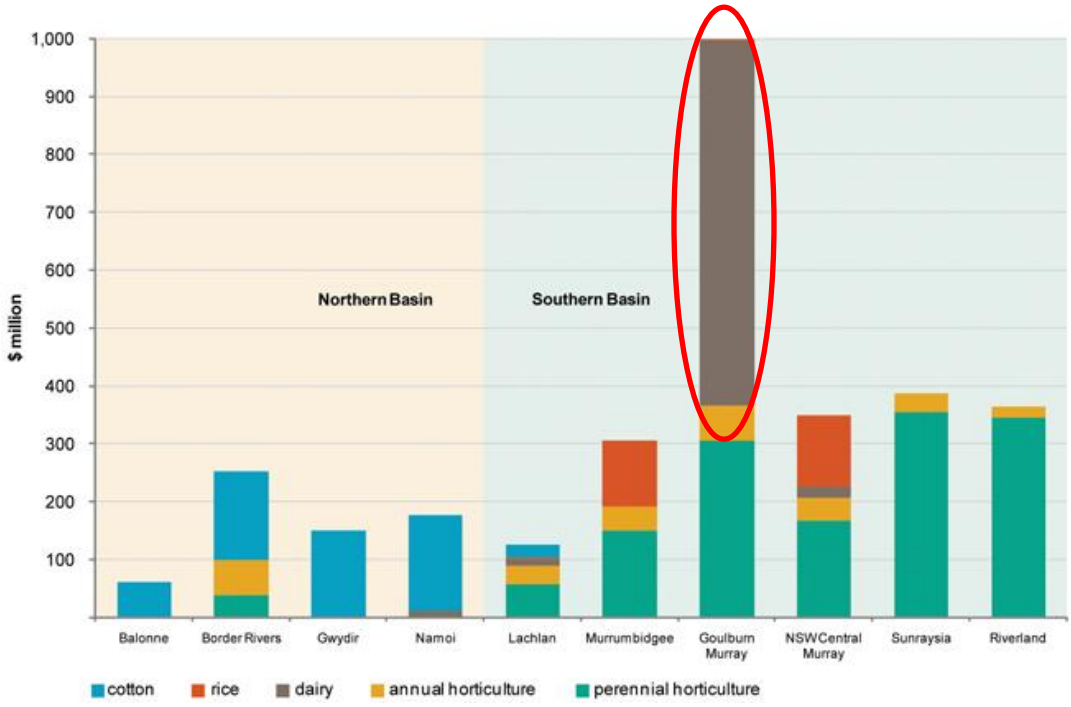
The dairy industry in northern Victoria is the largest industry in the region and supplies 20% of Australia's milk. Milk production is focused on manufactured products, of which, a large proportion is annually exported.

The dairy industry in the Victorian Basin area covers the Central Murray, Goulburn, Broken, Campaspe and Kiewa river regions.

There are 1,464 dairy farms in the region which produced 1.9 billion litres of milk in 2009/10 from 380,000 cows. The milk is supplied to fourteen factories.

The MDBA in the 'Guide to the Proposed Basin Plan' (Pg 85) also highlight the importance of dairy within the Victorian Goulburn and Murray regions.

The table below highlights the overwhelming majority of the dairy industry being located in the Goulburn and Murray regions.



Feedback on the MDBA Guide – Issues Identified:

- **STATE ACCREDITATION TESTS:**

On the 10th August2010, in the lead up to the Federal election, Prime Minister Gillard announced her Governments intentions regarding the Murray Darling Basin if re-elected.

> *"We will buy water as necessary from willing sellers to get the water going down the river, to restore the river to health".*

Despite the farm lobby generally not supporting water buyback, this announcement was welcomed by some as it ensured irrigator's would not face cuts to their entitlements or allocations and their 'right' to use their legal entitlement of water had been protected. The water reductions proposed by the Murray Darling Basin Authority would therefore only be met by willing sellers in an effort to 'bridge the gap' of the future water requirements of the environment.

The Murray Darling Basin Authority in the MDBA Guide Overview state (Pg 152-153) :

> *"The Authority considers the purchasing of water....to be the most effective way of ensuring environmental flows are increased".*
>
> *"The greater the proportion of the required reductions purchased by an environmental water holders, the less an individual entitlement holder's entitlement will be impacted by the SDL. If the gap is full bridged, the impact on remaining consumptive users will be nil. However, some of the economic impact on the community in the area would remain, due to the flow-on impact of less water being available for production".*

However, bridging the gap through water purchase is not the only mechanism proposed by the MDBA to secure water for the environment.

The MDBA are proposing that State Government through their Water Resource Plan Accreditation tests be required to transfer water from consumptive users to the environment in the event of a run of dryer than normal years. This largely represents a transfer of reliability of consumptive users to the environment without compensation and is in direct opposition to what the Federal Government has promised irrigators.

The MDBA have publicly denied that allocations and reliability of water entitlements would be impacted by the MDBA Plan, unfortunately it is not until you wade through the Technical appendices' on page 1129 that you discover these far reaching implications.

The MDBA make the following comment on the principle of equitable sharing (Guide Overview Pg 106)

"A principle of equitable sharing of any reduction in water availability between consumption and environmental uses has been adopted by the Authority to address the current situation in which most resource plans are biased significantly towards allocation for consumption under drier future climates"

The MDBA fail to acknowledge that SDL's will see close half of the productive water return to the environment and that the environment and farmers rights to this water will be equal.

In 2007, the Council of Australian Government's agreed to the introduction of tagged water entitlements. This means that water will maintain the same characteristics from its original source.

For example, if a buyer purchases a high reliability Goulburn water share it will remain a high reliability Goulburn water share.

The MDBA also make the following comments when it comes time for the States to implementing the Accreditation tests: (Technical Background Pg 123):

"If the SDL was set at 100GL/y in a particular catchment, the water resource plan prepared by the Basin State would have to show that the average take permitted by the rules in the plan would not exceed 100GL/y under modelling of a repeat of the historical climate scenario.

If.....the 2030 climate scenario modelling indicated that the average surface-water availability would be 20% less, the same water resource plan rules would be required to show that average diversions would not exceed 80GL/y under the 2030 climate scenario (ie 100GL/y less 20%)

The requirement has been included to ensure equitable sharing of any reductions in current diversions between consumptive and environmental uses".

This Accreditation test is flawed in a number of ways:

1) No socio-economic modelling has occurred on a reduction in allocations, models have only examined reductions in entitlements. The regional implications are likely to be far greater with cuts to allocations as farmers cannot plan their business with any certainty in fear the environment will receive its share of the water in dry times;

2) The MDBA ideally would like to see the Basin return to a pre-development environment, if this was the case then the Murray would not run and therefore this principle would not be required;

3) Northern Victoria completed a Sustainable water Strategy that will allow farmers and the environment to manage its own risks during dry times;

3.1) Carryover allows water users to carryover allocations and water purchases from one season to the next season. It allows irrigators and the environment to manage business risks and plan with certainty, the principle of equitable sharing undermines this certainty;

3.2) Under the reserve policy, Victoria begins building reserves for the Goulburn system once allocations reach 30% of high-reliability water shares by assigning inflows equally to the reserve and to increasing current season allocations. Once allocations reach 50% of high-reliability water shares, all further inflows until 1 April are directed to building current season allocations. This policy provides certainty for farmers, yet the principle of equitable sharing through state accreditation tests only undermines this.

4) A range of engineering solutions are available to the environment to ensure it becomes more efficient. The Authority is not encouraging the environment to make any efficiencies;

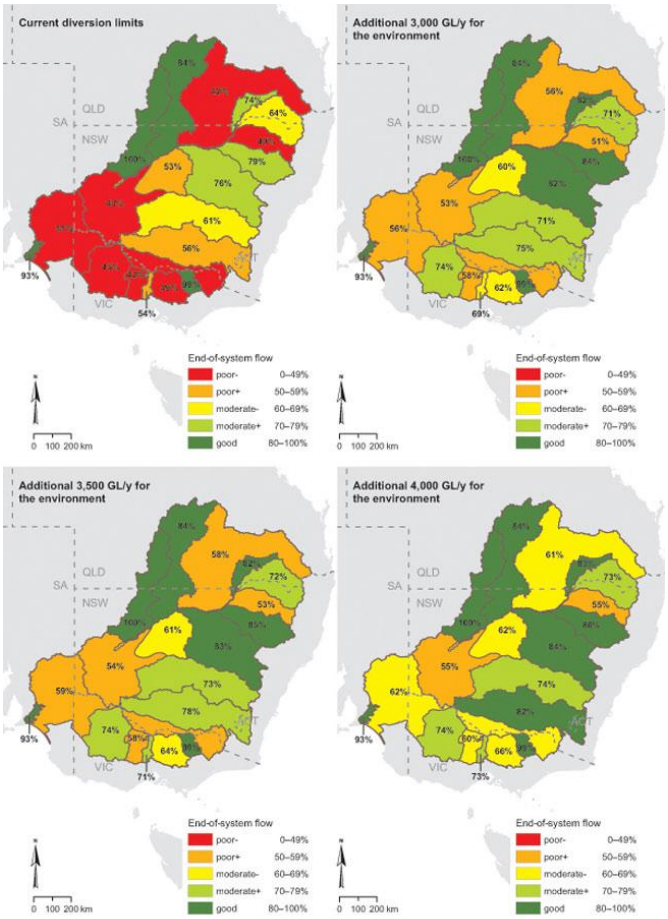
Recommendation:

That the Authority clarifies its position regarding State Accreditation tests and the principle of equitable sharing.

That State Accreditation tests and the equitable sharing principle undergo socio-economic modeling.

- **SURFACE WATER - BEST AVAILABLE SCIENCE NOT USED:**

The Murray Darling Basin Authority has based its Sustainable Diversion Limits around pre-development 'end of system flows'. The maps below represent end of system flows as determined by the Authority in their 'Guide to the Proposed Basin Plan', Pg. 112.



The MDBA have based their SDL's on ensuring 60-80% of the water in each of the 19 catchments leaves the region so it can make its way to the Murray Mouth. This is a simplistic volumetric decision that has not considered scientific data.

The MDBA in their 'Technical Background', Part 1 (Pg 108) state:

> *"There are many analytical tools that can be used to quantify and assess flow regiment. For the purpose of estimating the volume of additional water required by the environment, MDBA used flow duration curves as one of the main analytical tools…."*

"For key ecosystem functions, targets seek to achieve a moderate rating for each flow regime component; that is, a metric value at least 60% of the without-development value".

What The Guide fails to recognize is the Murray Darling Basin is highly regulated and developed and a return to a pre-development environment is simply not possible.

The MDBA note on their website:

"The river's flow has been regulated for many years. Since the Hume Dam was completed in 1936, a continuous flow has been maintained throughout the length of the Murray.

Without regulation, the Murray would probably have stopped running during the current drought, and those of 1938–39, 1944–45, 1967–68, 1982–83 and 1997–98.
To regulate the river system, MDBA operates a number of structures, including:

- *five major storages (Dartmouth and Hume reservoirs, Lake Victoria, Lake Mulwala, and Menindee Lakes (the Menindee Lakes are not an authority asset, but are leased from New South Wales))*
- *13weirs and locks*
- *five barrages (barriers constructed near the river mouth to stop the entry of sea water)"*[1].

Returning rivers to a pre-European or 'without-development' state is neither possible nor desirable and highlights that the Murray would have stopped running without such regulation.

SDL's based on end of system flows does not provide any clear environmental outcomes and it is not possible to:

- comprehend the environmental benefit provided by the SDL's;
- Consider options that optimize environmental water delivery to maximize environmental outcomes and minimize impacts on water users.

Recommendation: That the Authority re-examine its SDL assumptions and refer to the best available science rather than a simple volumetric calculation.

[1] http://www.mdba.gov.au/water/river_operations

- **SDL REDUCTIONS WILL BE EVEN HIGHER THAN THOSE POSED BY THE MDBA:**

The MDBA has based all SDL's on a reduction on water course diversions, however there are two forms of water that will be highly unlikely to be available for purchase; this includes urban water and distribution system losses;

Distribution system losses are the losses that occur in running the irrigation channel network. If the MDBA wish to see irrigation continue in the region then they cannot purchase water allocated to cover these losses;

When urban water and distribution losses are excluded, the SDL reductions increase significantly;

The reduction jumps to as high as 50% on the Goulburn, Murray and Broken systems, 46% on the Loddon, up to 76% on Campaspe, 79% on the Ovens and up to 49% on the Kiewa.

System	Total Water Course Diversions[2] Note: Does not include interception	SDL reduction Proposed by MDBA[3]	SDL Reduction %[4]	Water unlikely to be available for purchase		Diversions accessible for reduction (ie. Urban, & distribution losses excluded)	The real SDL Reduction %
				Urban[5]	Distribution system losses		
Goulburn	1593	442-593 GL	28-37%	44GL	360GL	1189GL	37-50
Murray	1656	442-592 GL	27-36%	58GL	440GL	1158GL	38-51%
Broken	14	5.6-6.1 GL	40-44%	2GL		12GL	47-51%
Loddon	95	38-43 GL	40-45%	2GL		93GL	41-46%
Campaspe	115	40-52 GL	35-45%	47GL		68GL	59-76%
Ovens	25	10-11 GL	40-44%	11GL		14GL	71-79%
Kiewa	11	4.4-4.9 GL	40-45%	1GL		10GL	44-49%

Recommendation: That the Authority acknowledge that urban and water for distribution losses is unlikely to be available for purchase. Therefore the volume required to be purchased from irrigators will be higher than the SDL's proposed

[2] Murray Darling Basin Authority- Guide to the proposed Basin Plan, Pg 132-134
[3] Ibid
[4] Ibid
[5] Northern Region Sustainable Water Strategy, Pg 182

- **GROUND WATER _ BEST AVAILABLE SCIENCE NOT USED:**

The MDBA have set groundwater limits on existing use, it seems the Authority is not proposing to use best science to achieve the best environmental outcomes.

The MDBA state:

> *"The current diversion limits of 67 groundwater systems have been assessed as reflecting and environmentally sustainable level of take. No reduction is proposed". (Pg 79)*

Yet for all the Victorian groundwater regions, the SDL will be capped at '"current use" (Pg 142). As most groundwater users have not fully used their entitlement in given years, capping groundwater to current use reduces irrigators rights to use their full entitlements.

The MDBA also state:

> *"Current use is based on the 2007-08 level of use in most instances, however, where the 2003-04 to 2007-08 data was available, the average of these values were used". (Pg 142)*

As the Authority is aware Northern Victoria has undergone drought for the past 10 years and groundwater levels have been impacted by these dryer times.

Therefore it would seem that groundwater entitlements would have to be reduced in order to meet limits of water used from 2003-2008, which is contrary to the position taken by the MDBA on page 79 of The Guide. The MDBA would therefore prevent existing license holders from exercising their right to use their full entitlements.

The approach of determining SDL's by levels of use from 2003-2008 is not science based and is a simple volumetric calculation. Setting groundwater SDL's based on use is inappropriate because recent past use is:

- Not an indicator of sustainable yield of a groundwater systems;
- Bears no correlation with stream flow objectives or environmental objectives; and
- Does not recognise that in some areas, further water resources, beyond existing entitlement volumes, could be used without any adverse impacts on other users of the environment.

Furthermore, the MDBA states:

> *"Groundwater planning is not as well developed as surface water planning in terms of the area covered. Around 80% of the area of the Basin is 'unincorporated' in terms of groundwater planning, i.e. there is no recognized transitional or interim water resource plan over this area" (Pg 76)*

The MDBA have not acknowledged the groundwater management plans that operate throughout all Victorian groundwater systems and the Permissible Consumptive Volumes (PCV's) that operate for each.

Groundwater users have undergone significant engagement and consultation in the development of these groundwater management plans. The MDBA's decision to cap groundwater at existing use would create a great deal of confusion.

Recommendation: That the MDBA provide a clear position on whether groundwater will be capped or whether entitlement holders will be able to access their full entitlements.

That the MDBA acknowledge the groundwater management plans that operate throughout Northern Victoria.

- **SOCIO-ECONOMIC IMPLICATIONS:**

The MDBA state in the Guide (Pg 93) that Sustainable Diversion Limits proposed for the Murray, Campaspe and Loddon systems could

> *"be absorbed in the medium term to longer term through water trading".*

Beyond a 4000GL SDL,

> *" negligible water would be available for mixed and broad acre farming. The horticulture and dairy industries would experience some contraction. To offset reduced water allocations, some farms may be able to buy water from mixed farming and the NSW rice-growing regions"*
>
> *"The reductions in gross value of irrigated agricultural production in the Ovens region are low relative to the reductions in surface water use, because this region uses a high proportion of groundwater that is not proposed to be reduced"*

The water reductions proposed would see Northern Victoria and its rural communities under significant pressure. The banking sector highlighted that towns with a population of less than 25,000 people would not be sustainable in the long term under the proposed water reductions.

To simplistically assume that dairy and horticulture will purchase water from Broad acre farmers highlights the lack of understanding of the interconnectedness of industries throughout Northern Victoria. If the MDBA claim that broad acre farms will not exist then they ignore the fact that the majority of dairy farms in the region purchase much of their feed from broad acre farmers. To remove broad acre from the region would result in less feed for cows .

Academics have also claimed that throughout the last 10 years of drought, the gross value of irrigated agricultural production reduced by 1% and therefore the water reductions proposed by the MDBA are acceptable.

The dairy industry in Northern Victoria can be used as a case study to refute these claims:

Northern Victoria has traditionally been the largest dairy producing region in the country, producing more than a quarter of Australia's milk. A decade of drought and the region has lost 30% of its milk output, with a reduction of more than 1 billion litres since 2001/02. According to ABARE dairy farmers in Northern Victoria have increased their debts 41% over the last 10 years from $367,000 to $518,000. Farmers belief 'that it will rain again' caused many to go further into debt to ride out the dry years.

The Authority also states that:

> *"Reductions in current diversions at the 3,000-4,000Gl/y may result in dairy actually expanding from current levels of production compared with recent droughts".*

Clearly the recent 10 years of drought has seen over 1 billion litres of milk no longer produced, it is therefore implausible to consider the dairy industry in the region would expand with the removal of 3-4000 gigalitres from the Basin.

The District Council is also critical of the MDBA's position that:

> *"A fall in Basin-wide employment of around 800 full-time jobs (if 3,000GL/y is adopted) would be expected (Pg xxvii)*

The District Council cannot accept these claims and this is contrary to positions taken by the Authority later in the document. On Page 122 of the Guide the Authority discussed a 10% reduction in dairy, 32% reduction in rice, 20% reduction in cotton and a 38% reduction in other broad acre activities. It is simply not plausible that so few jobs will be lost.

Recommendation: That the MDBA acknowledge the proposed SDL's will have significant socio-economic impacts on rural communities and their local economies.

- **ENGINEERING SOLUTIONS FOR THE ENVIRONMENT:**

Providing water effectively to the environment, within the constraints of a developed system, is not a simple issue. Complicated problems require carefully thought out solutions. They require time to plan so there is a certainty of success.

The Living Murray Program funded by Basin Governments, can provide much guidance to the development of the Basin Plan.

The approach adopted in that program was to initially define environmental objectives for each site and their water requirements, and then determine how to recover and deliver water to the sites to best meet their requirements.

The program includes both water recovery, with an initial focus on water savings projects, and environmental works to allow for the efficient delivery and management of the recovered water.

By way of example, Lindsay Island is a high-value floodplain ecosystem on the River Murray near Mildura. The amount of environmental water required to flood the Lindsay Island area is about 1000 GL. However, similar ecological benefits could be achieved with an investment of $43 million in a program of regulators and levees to deliver the environment's water more efficiently, achieving a similar ecological outcome (60% of the area) with only 92 GL of environmental water.

These types of innovative solutions could be applied throughout the Basin and should be carefully considered in determining how much water actually needs to be recovered for the environment from water currently used for productive purposes.

Recommendation: That the Authority must take early action to scope a program of works and measures to achieve the same environmental outcomes with less water.

USAGE VERSUS ENTITLEMENT:

The Sustainable Diversion Limit numbers are presented by the MDBA as total volumes of water or "long term average quantities of water" (Pg 104). Figures are not presented as clear entitlement reductions which has caused confusion.

Not everyone will use (divert) their full amount of entitlements in a given year (either through low allocations or simply not using it). Therefore the number of diversions will be less than actual entitlement.

The MDBA will therefore need to recover active entitlements or water currently being used to seek their proposed reduction – purchasing inactive water (sleeper licenses) will not actually reduce diversions in a given system;

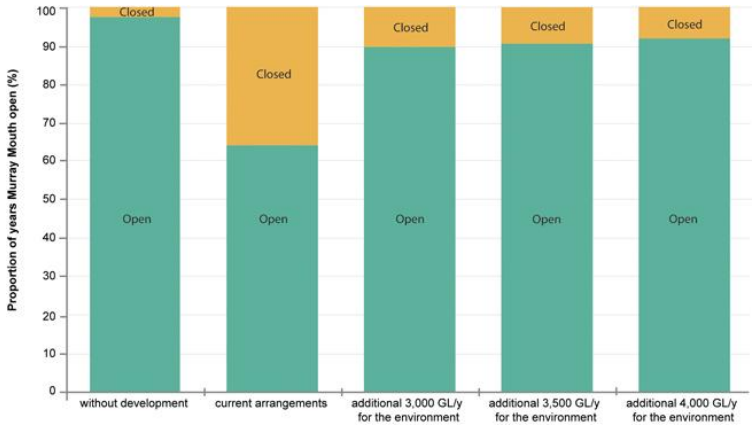
Systems with low levels of use will therefore face greater entitlement purchase as purchases of un-used water or 'sleepers' will not actually reduce the amount diverted.

This is particularly highlighted on the Broken, Ovens and Kiewa systems. To achieve the proposed reduction on the Ovens system, the Commonwealth would have to purchase more water entitlement than diversions accessible for reductions.

Recommendation: That the Authority clearly articulates the entitlement volumes they require.

- **MURRAY MOUTH:**

The figure below (Pg 113) shows the proportion of years when the Murray Mouth is expected to be open, under without development, current arrangements and potential scenarios. The MDBA claim that the provision of an additional 3,000 GL/y for the environment will increase the mouth being open to about 90% of years. An additional 3,500 GL/y will increase this to about 91% of years, and 4,000 GL/y will increase this to about 92% of years.



What the authority fails to recognize is the Murray Darling Basin is highly regulated and developed and a return to a pre-development environment is simply not possible.

Successive Governments have over the past 100 years, for a range of reasons developed flood control, hydro-electricity generation and irrigation throughout the basin which has substantially modified many of our inland rivers with dams, lochs and weirs.

Returning rivers to a pre-European or 'natural' state is neither possible nor desirable. However, this does not mean that our rivers can't be healthy

In regards to the Modelling of the Lower Lakes,it is unclear if the authority has assumed annual evaporation losses of 750GL to 800GL each year or whether it is seeking to reduce these system losses?

Recommendation:
That the authority clarifies evaporation losses modeled for the Lower Lakes and whether the authority is recommending they be reduced.

- **WATER FOR THE ENVIRONMENT NOT ACKNOWELDGED BY THE MDBA:**

Victoria has a number of projects and entitlements that deliver water to the environment, unfortunately these have not been acknowledged by the MDBA's Sustainable Diversion Limits.

The MDBA have therefore not acknowledged 359GL of water available to the environment in Victoria; as outlined below:

Project[6]	**Amount GL**
Living Murray Initiative	214GL
Snowy River	35GL
Flora and Fauna Bulk Entitlement	28GL
Loddon BE for Boort wetlands	2GL
Barmah Millewa Forest Allocation	50GL
Goulburn River Water Quality Reserve	30GL
TOTAL	**359GL**

Recommendation: That the Authority acknowledge the water already being contributed to the environment by Victoria.

[6] Northern Region Sustainable Water Strategy

- **CAP EQUIVALENT WATER: :**

The volume of water that will be recovered by a water recovery measure is calculated as a 'long-term Cap equivalent' volume. The long-term Cap equivalent is a type of average and takes into account the different characteristics of water entitlements within the Basin. For instance, to recover a long-term Cap equivalent volume of 1,000 ML in the NSW Murray region, you could purchase either a 1,053 ML High Security Water Access Licence or a 1,237 ML General Security Water Access Licence. This measure of water recovery creates a common unit of measure, thus allowing equitable comparison of a broad range of water recovery measures.

The MDBA are proposing an average 27-37% reduction in watercourse diversions from each state. Yet there is not discussion as to how this relates to the varying water products within the basin and how they will be factored into long term cap equivalents.

Northern Victorian farmers feel particularly vulnerable to the Commonwealth water buyback as Victorian water is very secure. This is particularly highlighted with buybacks completed to date:

Of the 900GL already purchased by the Commonwealth, 257GL is from Victoria. However, when you consider how much of the 900GL would have been returned to the environment based on the last five years of allocations, Victoria would have contributed 56% of the water, NSW 34%, South Australia, 9% and Queensland 1%. Clearly the high reliability of Victorian water makes it an attractive water product to the Commonwealth.

Recommendation: That the Authority clearly articulate water requirements of each state in long term cap equivalents

- **WILLING SELLERS AND WATER BUYBACK:**

The MDBA state in the Guide that:

> *"The Government has indicated its intention to bridge any remaining gap between what has been returned and what is required to be returned. (PG 152)*

This gap will therefore be 'bridged' through water purchases, the Authority also states:

> *"the purchasing of water in this way is the most effective way of ensuring environmental flows are increased...These purchases will assist in mitigating the impact of any reductions that will be required to meet the SDL's." (Pg 152)*

Buyback of entitlement from irrigators is not the best long-term approach to gain more water for the environment. It is supposed to be 'fair' as it pays a market price to 'willing sellers'. It is supposed to be good as it is cheap. Neither claim is true.

Buyback does not reimburse the real value of the water – it relies on desperate sellers. It pushes most of the costs of adjustment onto regional communities and tax payers.

Most sellers are desperate sellers rather than willing. They have faced 10 years of drought, fluctuating commodity prices and a soaring Australian dollar. Buyback provides a route to reduce debt and refinance business development. However:

- The market value represents a marginal value of what could be produced from the use of a viable business given the capital investment made, with established markets and good will;
- Many irrigators are selling off entitlement to reduce debt and in future will rely on being able to access the temporary water market to maintain production. Yet this is a high risk strategy;

Local communities carry the real cost

Irrigated properties generate five times the value of production as do dryland properties. Taking irrigated properties out of an area undermines the viability of the community.

- Dairy farmers spend more than 75% of their total expenditure in the region, and horticulturists spend more than 95%[7].
- So irrigated farms support a much wider regional economy. That means work for the farm supplier and the local shops as well as the food processing factory. It also means

[7] Figure 21 in MJA, RMCG, et al., (2010), *Economic and social profiles and impact assessments for the Murray-Darling Basin Plan: Synthesis Report.* Report to the MDBA, July

a vibrant community with kids at the local school, an active footy club and rate revenue for the local council

- Buy-back may put cash in the hands of irrigators. But most of the capital goes straight to the banks to reduce debt. It is not spent in the community reinvesting in alternative enterprises
- Buyback does nothing for the local community and regional economy who face a slump in demand for services when irrigated properties are taken out of production.
- These wider impacts from buy-back are borne by local businesses, the community and by the tax payer in heightened payments for social services and structural adjustment
- Once those wider costs are included in the calculation then the real costs of using buyback are no cheaper than the costs of irrigation modernisation

Unviable irrigation systems

Untargeted buy-back results in a Swiss-cheese effect, with an ill-coordinated scatter of de-watered properties within an irrigation district. That creates an unviable irrigation system.

- Lack of coordination in the targeting of buy-back and the scatter of properties makes it very difficult to generate efficiencies in system design or operation to ensure that the irrigation system is future-proof against risks from climate change.
- It may make some systems unviable even with termination fees.
- It takes water out of the system that is currently being used for production, but does not capture unproductive water being lost through leakage or seepage
- Buyback creates no drive to promote increased productive capacity on-farm. It merely takes water away from production.

Insufficient Willing Sellers:

The Commonwealth has halved the price they are prepared to pay for water in the last 12 months in Northern Victoria. This will most likely impact the number of sellers prepared to offer their water for sale.

Pg 154 of the Guide states:

- *"In the event that water recovery efforts do not fully offset the Australian Government's share of the reduction, the Water Act provides for payments to be made to affected entitlement holders. Payments for such residual share would relate to any reduction in market value of eligible water entitlements'.*

This seems to suggest that if insufficient water is gained through buyback, the Commonwealth will simply acquire the amounts they need and pay market value.

Recommendation: That the Authority clearly explain how water will be recovered if there are insufficient willing sellers.

- **INVESTMENT IN IRRIGATION MODERNISATION DRIVES THE BEST OUTCOMES:**

Irrigation modernisation generates water savings for the environment at the same time as promoting the productive capacity of the region.

Water savings and benefits to the environment

Investment in irrigation modernisation generates water savings from un-productive water - water that is currently lost in leakage, seepage and evaporation.

- That means more water for the environment while protecting the water that is available for irrigation
- Some of the losses may have fed wetlands or streams. But most of these losses were the wrong volumes, in the wrong place, at the wrong time of year
- Most of the losses merely put pressure on highly saline groundwater that pushed extra salt into the rivers
- Stopping the losses means you can hold the water savings in the dam so it can be used for the highest value assets, in the right way, with the right volume, at the right time
- So you get better rivers and retain vibrant local communities

Promoting production and viable communities

Irrigation modernisation also enhances the productive capacity of the region:

- Irrigation moderinsation provides higher levels of service at the farm gate.
- these promote investment on-farm in higher value production systems
- that results in more resilient and sustainable businesses using water more efficiently
- more productive farms means more money spent in the local community buying services, growing the products that are needed by the major food processing factories, and generating the wealth that supports the social fabric of the local town

Recommendation: That the Authority promotes investment in irrigation infrastructure as the preferred option to secure water for the environment.

- **INTERCEPTION:**

The MDBA guide provides little detail on how interception figures have been calculated and they even note the figures are based on 'estimates'.

> *"The impact of run off is used as the basis for estimating interception by farm dams" (Pg 51)*
>
> *"The impacts of forestry plantations are not modelled explicitly....the estimates of the impact on run off of forestry plantations are based on the work done for the National Water Commission" (Pg 51)*

It is therefore unclear that if interception activities have been under estimated does this mean that SDL's would have to be adjusted in the future?

Given the SDL's are using 'pre-development' as their base scenario, it is interesting to consider this notion in the context of interception. If we are to return to a pre-development environment, this would result in more trees in the Kiewa, Broken and Ovens and less end-of system flows.

The arrangements for domestic and stock dams and plantations are statutory rights, which allows people to use water without a license/entitlement and do not pay any fees or charges. However, If the authority were to cap interception it creates two key problems:

1) Any new development for a stock and domestic dam would see water from an existing user being purchased;
2) Growth in domestic and stock dams could continue at the expense of other diversions.

Neither option is palatable and creates a number of problems. It would simply be politically unacceptable to curtail stock and domestic development and secondly if interceptions were allowed to expand, this could result in diverters allocations being reduced.

Recommendation: That the Authority provides greater clarity around its interception figures and how they believe it will operate when determining SDL's.

- **3% REDUCTIONS FOR ALL IRRIGATORS:**

The MDBA propose that:

> *"the climate change component to be 3% of current diversion limits for individual surface water SDL areas (0% for groundwater). This proportion of the change will be borne by water entitlement holders (Pg 154)*
>
> *"This would mean that the Australian Government's share of the proposed surface water reduction is in the range of 3,000GL to 4,000GL is estimated to be 2,590GL to 3,590GL (ie. The total after a reduction of 3%".(Pg 156)*

This suggests that irrigators will wear the cost of a straight 3% cut in 'their' water entitlements across the Murray Darling Basin yet within the Draft Plan the Murray Darling Basin Authority indicates that modelling is unable to determine what impact is associated with drought and climate variability as distinct from climate change.

To suggest that irrigators would be willing to give up 3% of their water entitlement and reduce an asset for no consideration is outrageous in the current environment. Farmers have taken out overdrafts on these assets and are simply not aware the MDBA are proposing this reduction.

Recommendation: That the MDBA remove the 3% reduction for all irrigators.

- **CRITICAL HUMAN NEEDS:**

The MDBA state that:

> *"The Basin Plan will set out a minimum volume of water for critical human needs in the River Murray system....These volumes have been calculated to allow for basic individual requirements such as drinking, food preparation and hygiene; water to cover community essentials" (Pg 148)*

Northern Victoria has moved to a sophisticated water management system where all water users, including farmers, urban authorities and the environment can manage their own risk The introduction of carryover a reserve policy and the water market allows all users to manage risk of reduced water availability.

The Critical Human needs figure for South Australia is 126GL higher than NSW or Victoria. We believe South Australia should be required to find efficiencies within its system.

We note that it is each state's responsibility to manage their own critical human needs and that the figure for South Australia is 126GL higher than NSW or Victoria. We believe that recent measures such as a desalination plant and stormwater harvesting is helping Adelaide, Murray Bridge, Port Augusta, and Port Pirie to become less reliant on the Murray Darling Basin. We believe this should allow the MDBA to develop a more equitable water sharing arrangements in times of dry.

However, if the MDBA insist with a critical human needs component then stock and domestic must also be included. Farmers need water to operate their homes, water stock and for the dairy industry, sufficient dairy was water must be available to ensure dairies can operate and meet food safety regulations.

Recommendation: If the MDBA are to have water for critical human needs then stock and domestic water must also be included;

- **COMMUNITY CONSULTATION:**

In the face of such large change to water management a rigorous process of engagement and consultation is required.

Communities are a rich source of information about their regions and are best placed to help understand the implications of trade-offs in water management. Community involvement takes time, but without the knowledge and support of communities, managed change will not happen.

Northern Victoria recently completed the Northern Region Sustainable Water Strategy that involved 18 months of community consultation, supported by 4 working groups.

Recommendation: That the Authority adequately engage and consult with regional communities.

- **FLOODING:**

The District Council is concerned about the volumes of water proposed by the MDBA to achieve top of bank/out of bank flooding. The volumes proposed would see more water than the recent September floods and this poses significant implications for farmers and the need for compensation as a result of these floods.

Recommendation: That the Authority re-evaluate its flooding requirements and provide information on how third party impacts will be addressed.