3

The Guide

3.1 The release of the Guide triggered an unprecedented negative and hostile reaction across the Basin. Some of this anger is in response to the very high reduction in diversions identified in the Guide. The grievances of Basin communities were also aggravated by the manner in which the Guide was communicated to them.

3.2 It is apparent that the impact of the Guide is already being felt in many rural communities throughout the Basin. There is considerable anger and anguish in these communities about the perceived injustice of the proposed significant cuts in water and hence uncertainty about their future viability as food and fibre producers or those whose businesses service the agribusiness sector:

> We live and work within our communities, and I can tell you for the first few days in the week after the report was released we were inundated with calls reflecting absolute disbelief and uncertainty. It was as if all of the self-confidence, certainty and commitment had been extinguished by one document.[1]

3.3 It is also apparent that matters have been made worse through the lack of consultation during the development of the Guide and poor communication following its release. As a result, there is no sense of community participation in the process and a considerable misunderstanding around what the Guide is, what it is proposing and what the impacts will be on regional communities:

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1 Mr Harold Clapham, Mainland Finance, *Transcript of Evidence*, Deniliquin, 24 January 2011, p. 30.

> There is very much a perception from people on the ground that this basin planning process is something that is being done to us and not being done with us. It is a bad example, if you like, of government service delivery and the way government is perceived these days. The only time we see governments is when they come to take things away; that is happening far more these days than in actually turning up to do something for us. There is a perception that government should get out of the way and let us get on with what we are good at doing. We believe we have good processes, good rules and good plans in place, and that this is an additional obstacle that we really do not need.
>
> The engagement process has been very much a top-down one. There has been very little in the way of real engagement. The closest we have come to that is technical visits from the authority which have been simply justifying how they got to where they did with the guide and not explaining anything in detail as to how it is going to affect us here.[2]

3.4 The mismanagement of the preparation and communication of the Guide has affected communities in far reaching ways. The Committee encountered many stories of reducing investor confidence, depression, anxiety and suicide in many communities.

3.5 The warm welcome that this Committee received throughout those same communities proves that, when consulted appropriately and with respect, communities are open to talking about hard decisions or options that must be considered.

3.6 This Chapter addresses the impact that the release of the Guide has had in Basin communities, in the words of those communities, including the pressures facing farming communities and the impact of the drought.

3.7 The following chapter goes on to discuss a way forward for the MDBA and other Commonwealth agencies to engage with Basin stakeholders in a constructive manner, focussing on producing a Basin Plan that builds and supports strong Basin communities.

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2 Mr Tim Napier, Executive Officer, Border Rivers Food and Fibre, *Transcript of Evidence*, Goondiwindi, 16 March 2011, p. 4.

What is the Guide?

3.8 A common and significant misconception about the Guide is that it is the actual Basin Plan. However, the Guide is simply an expression of the MDBA's thinking and methodology behind the preparation of a proposal. It is nothing more than a complex discussion paper. The Guide has no official status in regards to the Basin Plan that will be put to Parliament for consideration.

3.9 However, the mode used by the MDBA to prepare and communicate the Guide did nothing to disabuse a common view that it was the final proposal. This was reiterated through the MDBA's approach of:

- presenting the Guide as a glossy, full colour print document and calling it a Guide to the Basin Plan, rather than a discussion paper or working document;
- failing to consult during the preparation of the document and the organisation maintaining a 'closed door' approach to its thinking both in terms of the community and the States/Territory;
- presenting the Guide to the community through a series of 'community information sessions' rather than consultative workshops which could have allowed the feedback of and interaction with the community;
- failing to address misconceptions about the intent of the Basin Plan, including the most significant misconception that water will be 'taken' from entitlement holders;
- failing to take into account the existing pressures within farming communities both in developing and presenting the Guide;
- failing to adequately address socio-economic modelling on the impact of proposed SDLs in the Guide;
- failing to address the interconnectedness of the northern and southern sectors of the Basin including their relationships with the lower lakes and the mouth of the Murray;
- failing to provide a clear vision for how the Basin Plan would be implemented, including the respective roles of the Commonwealth and state and territory governments; and
- admitting openly in community meetings that they were not confident with the estimated potential job losses, as impacts of SDLs.

3.10 With clearer planning, and an appropriate articulation of the purpose of the Guide, its relationship to the proposed Plan and the role of the states and ACT in implementing the Plan, all of these failures could have been avoided.

3.11 Although there has been media focus on the anger caused by the Guide, the community proved to the Committee that it is supportive of and willing to work through this process in a constructive manner:

> One of the key criticisms we need to lay at the feet of the process to date is lack of recognition and wanting to garner that information from the community. So, with this lack of engagement, this lack of consultation, it should have been entirely predictable that there would be a hostile response. These folk here know about water and they want their voices heard. They know they will not get the right decisions all the time—and I am sure all of them have run-ins with the state authorities—but I think it would be true to say that they know they can be heard and they have been respected in the past and in turn give their respect to the authorities. I think that is what has been missing in this process to date. It has been a one-way street, and the uncertainty that has been created by releasing a complex document in a context which has been unclear, on an overlay of people who are used to being consulted, has given rise to what we have today: the need to revisit, reappraise and re-consult with communities about what this all means.[3]

3.12 The information contained within the Guide should not have come as a shock to communities. Had it been developed in a consultative, open and transparent manner, it would have reflected local knowledge and no doubt would have reached different conclusions based on better information. Instead the Guide has had a significant adverse impact on the community's short and long term investment confidence and the plans made by the next generation in the Basin.

3 Ms Lynda Summers, Chair, NSW Regional Consultative Council, *Transcript of Evidence*, Griffith, 25 January 2011, p. 59.

Impact of the Guide

3.13 While the Guide is simply a working document, it has been taken as a final plan and consequently farmers, communities and the business sector have reacted accordingly. This is indicative of the impact the Basin Plan will have, should it be presented in a similar manner.

3.14 The impact of the Guide is evidenced in Basin communities through:

- a reduction in investor confidence, including recruitment to job vacancies or expanding workforces;
- increased business uncertainty;
- stress caused by the expected job losses;
- exacerbated stress and pressure within farming families and agribusiness reliant or dependent communities;
- the prolonging of drought stressors; and
- further alienation of Aboriginal communities through a lack of recognition of their stakeholder status and particular cultural interests.

Case study 3.1 Social impact in Bourke

The Pacific Outback School is one of six schools in the Bourke area, and is located approximately 20 kilometres west of the town of Bourke. In his submission, Alan Amos states that the Pacific Outback School population numbered 118 students in 2006 when it operated both primary and secondary departments. Mr Amos considers the effect of the water cuts via the New South Wales Government Barwon-Darling Cap Management Strategy, as well as further uncertainty generated by the Basin Plan has resulted, amongst other things, a decrease in student population to 14 students. At the time of Mr Amos' submission, the school's Management Committee had decided to close the school.[4]

Mr Crothers, a community pharmacy proprietor, told the Committee what he has seen happen in the town of Bourke, and some of the concerns from people he meets through his pharmacy. In his evidence Mr Crothers told the Committee of the town's high dependence on the irrigation industry and the high social and economic vulnerability to any further decline in irrigated agriculture. These issues are emphasised by water cuts that occurred via the New South Wales government and the possible impact of a Basin Plan. Mr Crothers explained that over a period of time where water cut-backs had occurred and the decline in the local economy, there had been an increase in the usage of anti-depressants, analgesics and associated medication. Mr Crothers highlighted that mental health care in the community was problematic, as were drugs, alcohol and nutritional issues. In a town with a very narrow economic base already dealing with a number of issues, Mr Crothers sees the situation to be quite dire and at risk of further decline from the potential impacts of a Basin Plan.[5]

4 Mr Amos, *Submission 96*, pp. 2-3.

5 Mr Peter Crothers, *Transcript of Evidence*, Bourke, 15 February 2011, pp. 20-23.

Reduction in confidence and increased investor uncertainty

3.15 The Committee received wide reports of reduced investor confidence following the release of the Guide. This stems from the uncertainty created by the Guide in that it does not articulate 'how required environmental flows will ultimately be sourced and managed.'[6]

3.16 Uncertainty regarding water supply was a significant contributor to reduction in investor confidence during the drought[7] and the Committee heard concerns that the Guide if implemented would create a policy-driven drought with similar economic and social consequences.

3.17 Already the uncertainty is impacting on business confidence. The Australian Bankers' Association stated that:

> the Guide has generated uncertainty which has impacted confidence and therefore investment in the sector. We have seen this have an immediate impact on the saleability, and potentially the value, of several large scale assets, farmland, businesses and housing in areas potentially impacted by the Guide's proposals.
>
> Uncertainty has also been generated by a lack of clarity as to what the actual impact will be on a region by region basis. An ongoing program of education and awareness at local level would be beneficial. Timely advice from Government about the structural adjustment support that may be provided, including a timeframe that allows for the management of structural change, would be beneficial.[8]

3.18 The uncertain timeframes for release and implementation of the Plan is a contributor to this uncertainty. A business owner was reported as saying:

> The misery of not knowing your businesses fate until 2012 will stop people investing or spending money on an industry that could die![9]

3.19 Councils reported a general reduction in business confidence and increase in levels of business stress:

> Notwithstanding the proven resilience of our farmers and our communities, the MDBA Plan to mandate new SDLs has further exacerbated stress levels of farmers and reduced or delayed

6 Australian Dairy Industry Council, *Submission 196*, p. 5.
7 Murray Irrigation Ltd, *Submission 440*, p. 17.
8 Australian Bankers' Association, *Submission 601*, p. 3.
9 NSW Regional Communities Consultative Council, *Submission 545,* p. 14.

> investment levels as people await some indication of certainty re: water resource availability.[10]

3.20 Community support groups reported major investments being postponed:

> We are finding not only farmers but other associated businesses are delaying capital expenditure due to the uncertainty that this draft plan has created. Recently a farm machinery dealer delayed plans to build a new showroom and a dairy farmer delayed plans to build a new rotary dairy. Some businesses are delaying their succession plans until more certainty is known. This uncertainty in industry is creating real problems.[11]

3.21 Community groups have also reported personal stress and significant increases in a lack of confidence in the future:

> Local people in Hillston, Darlington Point, Colleambally and Leeton expressed the view that the current uncertainty is (quote) "killing people". The stress level in these communities is reported as high. Planned investment is cited as having stopped, or put on hold. Anecdotally it was reported that prescriptions for stress and depression medication has increased. Community members are looking for finalisation of the uncertainly [sic].[12]

Case study 3.2 Social impact in rural New South Wales

The Centre for Rural and Remote Mental Health (CRRMH) stated that the release of the Guide occurred within the context of significant and prolonged hardship within rural communities – economic decline, loss of rural infrastructure, the level of uncertainty in primary production, dependence on favourable weather conditions, climatic drying and warming, and perceived blaming of farmers for environmental degradation. These background factors have been shown to produce a vulnerability to mental health problems for people living in rural and remote areas.[13]

In Dubbo, Mr Hart of the CRRMH stated that whilst rural communities are very resilient, the length and severity of the recent drought had taken a toll on these communities. He went on to say that the numerous and major changes in economic and environmental circumstance, the resources to cope and adapt to these changes are stretched and one of the reasons why mental health issues have been so significant over recent years.[14]

10 Gannawarra Shire Council, *Submission 479,* p. 6.

11 Mr Peter Mogg, Murray Irrigators Support Group, *Transcript of Evidence*, Shepparton, 21 January 2011, pp. 5-6.

12 NSW Regional Communities Consultative Council, *Submission 545,* p. 8.

13 Centre for Rural and Remote Mental Health, *Submission 315*, p. 2.

14 Mr Hart, Centre for Rural and Remote Mental Health, *Transcript of Evidence*, Dubbo, pp. 45-46.

3.22 All of this is due to a lack of information about how the Guide and resulting Plan are due to be implemented and in what timeframes:

> The future of farming has to be with the younger generation coming forward—the second, third and fourth generations—and the way in which things are happening means we are going to lose them. In the long term I do not know where the government is going to get its food supply from if we do not have the farmers to grow the food supply for Australia. This is the big uncertainty. The longer we leave the Basin Plan in limbo and do not know what the decision is going to be, the worse it will be. The quicker the decision is made one way or the other, the better it will be for all of us.
>
> …
>
> I have two sons-in-law and a young bloke of 25 working on the farm. We have a couple of hundred hectares where we are producing wine grapes, citruses and vegetables. We are an uncertainty for them. The young generation are saying these days: 'What are we going to do? Are we going to stay here or are we going to leave?'
>
> There is uncertainty created by the Basin Plan. I do not know how long it is going to continue before they make a decision, but if there are any water cuts in this region then those young people will leave the industry—and that includes my family. I know for a fact there are other families around here that will do the same. It will be disastrous for this region; it will be disastrous for Griffith. Businesses will not survive. It is a nightmare just thinking about what could happen. But the uncertainty—we need to really push this along as quick as we can, not wait one, two or three years. It will decimate the region in three years time. The way things are going we will not be here. I know that it is a hard job for you people to go ahead and work on a system, but you need to move forward very quickly. [15]

3.23 The MDBA in the Guide and community presentations repeatedly and consciously failed to adequately articulate how the Basin Plan would be realised once it passed the Commonwealth Parliament. The justification given is that this is the responsibility of the states through water planning processes that are yet to occur. Whilst this explanation is technically or

15 Mr Bruno Brombal, Chairman, Wine Grapes Marketing Board, *Transcript of Evidence*, Griffith, 25 January 2011, p. 51.

bureaucratically correct, it clearly demonstrates both a failure by the MDBA to engage with the states and a lack of shared responsibility from the states and has led directly to the business uncertainty and lack of investor confidence currently existing across the Basin.

Employment projections

3.24 The potential for substantial job losses with any further reduction in water availability is real and concerning for many communities. Like the wider Australian population, farmers are aging. Coupled with the potential impact of the Basin Plan attracting young people into regional towns and agricultural jobs is a challenging issue that the broader industry needs and is ready to address.

3.25 Figures regarding the potential loss of jobs across the Basin as a result of the Basin Plan vary significantly. In the Guide, the MDBA projected long-term job losses to be in the order of 800 full time positions.[16]

3.26 The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has projected the Basin Guide would create 5 000 short-term losses which is five to six times higher than the long-run estimated job losses.[17] The widely quoted 'Stubbs Report' has projected 14 000 permanent job losses at the national level.[18]

3.27 The Committee recognises the difficulty in making an accurate prediction regarding the impact on employment given the range of variables and different SDLs involved.[19]

3.28 However, the Committee also notes that the context in which the above analyses were undertaken has changed. There have already been significant volumes of water purchased for the environment and some families or individuals have decided to sell their water and retiring, or converting to lower production farming (for example converting from dairying to cropping). If the water purchase program or other government activities continued, the impact on employment would continue to vary.

16 MDBA, *Guide: Volume 1*, Canberra, October 2010, p. 121.

17 Mr Paul Morris, Deputy Executive Director, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), *Transcript of Evidence*, 23 March 2011, Canberra, p. 22.

18 Dr Judith Stubbs, Principal, Judith Stubbs and Associates, *Transcript of Evidence*, 16 February 2011, Dubbo, p. 61. Judith Stubbs and Associates, *Report 4: Exploring the relationship between community resilience and irrigated agriculture in the MDB: Social and economic impacts of reduced irrigation water,* June 2010, p. 8.

19 ABARES, *Supplementary Submission 399.1,* p. 5.

3.29 ABARES has predicted that the actual long-term impact of the Guide on employment, settling in 2018-2019 when SDLs are fully adopted and the buyback has been completed, to be in the lower end, being 0.1 per cent of current employment levels.[20]

3.30 The Victorian Farmers Federation contested this prediction:

> An estimated 15.9 direct jobs are generated from every gigalitre of water utilised in fruit production, 4.2 direct jobs for every gigalitre used in grazing enterprises and 1.2 direct jobs in cotton production20. Based on the estimate for low labour intensity cotton production, 3600 direct jobs are expected to be lost from the MDB if an overall SDL of 3000GL were applied to the Basin. Based on the lowest requirement for labour in a farming enterprise, this data alone suggests that the working behind the initial figures identifying the loss of 800 jobs in the MDB is essentially flawed.

3.31 Analysis of local government statistical districts shows that an average of 15% of jobs in the agricultural sector have been lost across the key local government areas of Mildura, Swan Hill, Gannawarra, Campaspe and Moira.[21]The accuracy of predictions is questionable. It is a range of factors, including individuals' financial position, stage in life cycle, business and lifestyle objectives, location, alternate skills or opportunity to change. ABARES notes:

> The changes in employment are much smaller than changes in [Gross Regional Product]. The employment estimates generated by AusRegion are long-term estimates, and assume that labour is relatively free to move between industries and regions. While this is likely to be a fair assumption in the long run, especially when the economy is performing strongly as it is now, changes in access to irrigation water are likely to lead to more immediate and significant effects on employment, especially in towns and communities highly dependent on irrigation. Government actions under the WftF [Water for the Future] would be expected to partially offset these effects in the short term by providing employment opportunities in the construction and installation of water infrastructure. The extent to which employees made redundant in irrigated agriculture and related industries can transfer the construction and installation of irrigation infrastructure will depend on their skill sets. The time frame over

20 ABARES, *Submission 399*, p. 12.

21 Victorian Farmers' Federation, *Submission 395*, p. 17.

> which the policies are being introduced should also help ease the transition to less irrigated agriculture, with the gradual release of labour from this sector likely to be more easily absorbed into other sectors than if there was a sudden reduction in irrigated activity. However, the location where labour is released and where it is absorbed will often differ.[22]

3.32 Nonetheless, the short-term job losses are likely to be significant if the SDLs are not changed and if non-strategic buyback is the main method of claw back. Caution is needed when identifying specific impacts. ABARES noted:

> There is a bit of a risk and we are a bit wary about going down the path way of saying, 'This particular bank in this particular town is going to close,' or 'This particular rice mill is going to close,' because it becomes a self-fulfilling prophecy. The minute you tell the world that this rice mill is going to close, all of a sudden the banks say, 'We are going to cut our funding to them' or whatever, and all of a sudden you have actually created a self-fulfilling prophecy where that rice mill does get forced to be closed. So we are a bit careful in terms of not wanting to go to such a micro level, even if we could do that, that you actually create the environment that leads to things happening that might not otherwise have happened. What you tend to find in regional and rural Australia is that sometimes things happen which are unexpected: a new enterprise develops, a new tourist operation or educational institution or whatever or a mining operation, for example. All of a sudden those towns become much more viable in that region than would otherwise have been expected. So to actually try and predict at a very micro level what might happen to individual towns is fraught with danger.[23]

3.33 The scale of employment-loss projections across the Basin are concerning. The Basin Plan would need to be implemented with significant structural adjustment assistance if the current SDL recommendations were kept, including assistance for adjustment out of irrigated agriculture into dry-land or alternate enterprise in some areas.

3.34 The Committee received overwhelming evidence about youth migration out of regional centres, largely due to drought and a lack of job and education opportunities. Concerns were raised that this migration pattern

22 ABARES, *Submission 399*, p. 12.

23 Mr Morris, ABARES, *Transcript of Evidence*, 23 March 2011, Canberra, pp. 27-28.

will accelerate with any further reduction in irrigated agriculture also triggering a contraction of towns and regional cities.

3.35 However, the Committee also received evidence about areas reversing these trends, as one training organisation stated:

> They [Narrabri employers group] are also designing jobs. One of the issues, apart from our business skills sometimes not being up to par, is the capacity to design decent jobs—to design jobs that people would want to go and do, particularly young people. We have just done a cost-benefit study—I will be happy to hand this up to the committee if you wish—on the Narrabri model, done by ACIL Tasman, with progress to date in that region; it potentially improves productivity by 3.2 per cent. More importantly, perhaps, it has an impact on the net migration out of the place, which has been reduced by 33 per cent—that is the number of people leaving, particularly young people. When we did the job summit, the anecdote was that our two best loads of young people leave Narrabri every year because once they have finished their HSC they go to Sydney. They are now seeing an opportunity, in jobs and futures there, so some of them are staying. That is a really powerful model which could be applied more broadly than just there. They are much better equipped than we are, sitting here, to come up with those sorts of ideas.[24]

3.36 Skilled training organisations should play a key role in skilling individuals to adjust to any new regional jobs options. As well, major new investment in farm management and agribusiness training is needed. Food and fibre production will continue to require world best practice and innovation so that we can compete with imported produce and in export markets.

3.37 Australian rice and cotton growing is now benchmarked as best practice in new varieties and higher yields and water savings or tonnes produced per GL. The innovation and leading industry activity must be supported to continue.

24 Mr Arthur Blewitt, Chief Executive Officer, AgriFood Skills Australia, *Transcript of Evidence*, Canberra, 25 February 2011, p. 5.

Existing pressures on farming communities and the drought

3.38 The Guide was presented to people already suffering the general pressures faced by farming communities competing in very difficult markets or supply conditions and compounded by years of drought. The reaction to the Guide and its impact also needs to be seen in this context. Pressures faced by farming communities include:

> the ongoing declining numbers of farm establishments, farm families and farmers; the loss of young people to agriculture and to basic communities; the ageing profile of farmers; the insufficient productivity gains for the majority of farms to compensate for the compression in terms of trade; the low incomes generated for most farmers—50 per cent of Australian farms have an estimated agricultural operations value of less than $70,000; the increasing dependence of farmers on off-farm income; the loss of so-called entrepreneurial farmers with mid-sized farms through increased investment driven debt; and the high costs and high risks associated with entry into agriculture.[25]

3.39 Many gave evidence to the Committee about these pressures, particularly the future of farming with an aging workforce profile, the increasing investment-driven debt, in part aimed at water efficiency measures, and the lingering financial impact of the drought. The Committee also saw horticulture and cotton growing enterprises in the Basin, cereal and dairy production that was highly innovative and best practice. Agriculture has always been a high risk enterprise demanding highly experienced expertise.

A decade of drought

3.40 The Guide has been delivered following over a decade of severe drought. Many are still struggling to recover from the long-term impact of the drought, and in a cruel irony, some are also recovering from extensive flooding experienced in late 2010 and into 2011:

> This year, 2010, marks the end of 14 years of drought in south-east Australia. The prolonged dry spell was characterised by a combination of recurrent drought (short-term dry spells), less autumn and winter rainfall in most years, and an absence of very wet periods. Recent widespread, above-average rainfall across much of Australia has alleviated short-term dry conditions.

25 Prof. Chris Miller, School of Social and Policy Studies, Faculty of Social and Behavioural Sciences, Flinders University, *Transcript of Evidence*, Murray Bridge, 18 January 2011, p. 29.

> November 2010 was Australia's wettest on record, with high rainfall across most of eastern Australia. Australia received its wettest spring (September to November) on record.
>
> The combination of low river system inflows and low storage levels during the drought resulted in a severe water shortage for irrigators, particularly in the southern basin. From 2005–06 to 2008–09, the area irrigated and the volume of irrigation water applied in the basin have decreased by 44 per cent and 53 per cent respectively.[26]

3.41 This makes allegations of irrigation water being over allocated or of farmers upstream 'stealing' water particularly poignant.

3.42 It was suggested that the drought intensified the realities of farming and:

> reminded us that, for many, agricultural work as we currently know it should not automatically be defended as a 'no change' scenario. The realities of farming are reflected in the higher than average suicide rates amongst farmers. They are reflected in mental health referrals, domestic violence levels and increasing crippling household debt. They are also reflected in basin communities, with declines or stress in agricultural related industries, in the retail and service sector and in the housing market. There is also recent evidence of growing antisocial behaviour amongst young people who are still left behind in those communities. They are also reflected in the continuing failure to attract and retain essential professionals, such as medical and healthcare staff, teachers and public servants. There is also evidence of an outward migration of those who are highly skilled and who have expertise.[27]

3.43 Across the Basin, employment levels fell as a result of reduced water access due to the drought. Given the volumes of water sold off farms to relieve debt, combined with rationed and reduced allocations of water, it is possible to compare the response to this reduced water access with the impact of another round of water access reductions as recommended in the MDBA's Guide:

> The [Cotton Catchment Communities] CRC [Cooperative Research Centre] Wee Waa drought study found among other conclusions that:

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26 Department of Agriculture, Fisheries and Forestry, *Submission 473*, p. 11.

27 Prof. Miller, *Transcript of Evidence*, Murray Bridge, 18 January 2011, p. 29.

- Permanent staff numbers fell 60 per cent between 2004 and 2007 and Casual employment fell 40 per cent;
- The main type of staff positions terminated were Professionals, however positions have been cut across all jobs;
- Of the terminated employees; 2/3 have left the region and the remaining 1/3 are either working locally or are unknown;
- 60 per cent of businesses have downsized as a result of the drought. The majority of these businesses had downsized by at least 50 per cent;
- 95 per cent of businesses had a 60 per cent or greater reliance on a healthy agricultural sector especially the irrigated cotton industry;
- Reduced access to surface and groundwater for irrigation was the biggest factor other than drought impacting on business.[28]

3.44 A similar story was reported in the southern Basin:

> A recent study by RMCG consultants investigated the impact of the recent drought on non-farm businesses within a dairy industry community reliant on irrigated agriculture. This study analysed how the town would respond to future water scenarios.
>
> The results showed that successive years of low water allocations combined with a difficult operating environment had a significant impact on businesses. 75 per cent of businesses interviewed had experienced up to a 35 per cent decline in turnover due to the reduction in agricultural activity.
>
> Most businesses had effectively modified their practices to mitigate the impact of the drought however they believed that no further opportunities existed and further change would simply be taking market share from a business competitor.[29]

3.45 The social impacts of the drought were also widely reported, with most areas of the Basin reporting significant impacts, for example:

> The Social/Community Impacts identified included:
>
> - Combined ... Primary and Secondary school numbers declined ... between 2001 and 2007;
> - There is less capacity for the community and business to donate time, resources and funding essential to the viability of schools;
> - There has been a doubling in the number of people accessing health support/ counselling due to the drought;

28 Auscott Ltd, *Submission 301,* p. 2.

29 Australian Dairy Industry Council, Submission 196, p. 9.

- Health organizations were producing more information packages specifically for rural communities on mental health issues such as depression.[30]

Case study 3.3 Social impact in Sunraysia

In Mildura, Mr Forbes of the Sunraysia Rural Counselling Service told the Committee of increasing hardship in the area, particularly since 2006. In explaining the current situation, examples of the issues that farmers have had to face are: extremely dry and hot conditions; poor prices for fruit, higher interest rates; and the tightening of lending following on from the global financial crisis. A graph in Sunraysia Rural Counselling Service's submission[31] shows an increase in client numbers since the drought was declared in 2005. Mr Forbes expressed concern over the prospect of a decrease in water availability and the possible effects on the local community, and this being an indication of continuing need for rural finance counselling services. He continued to explain that along with the increased demand for counselling services, he was seeing counsellors more distressed as a result.[32]

3.46 The drought recovery that can be witnessed throughout the Basin is testament to the resilience of these communities. The impact of the drought on job losses and economic contraction in different regions is a vivid reminder of what another similar round of water access restrictions (this time permanent) would look and feel like. It is clear that any further transfer of water from farms to the environment must be achieved through increased water use efficiencies if a repeat of the drought impact scenario is to be avoided.

A sense of powerlessness

3.47 Communities reported to the Committee that the release of the Guide has made them feel powerless, and that their contribution to decades of water reform has been rendered meaningless. Repeatedly, people said to the Committee at its site inspections 'I've worked with the government for years on water reform, why should I continue to bother?'

3.48 The delivery of the Guide on the back of the drought and without any apparent awareness of the realities of the farming pressures has compounded the stress experienced by communities:

> The sense of powerlessness that we see has been exacerbated by the happenings over the last couple of decades. We see the water reform in many of our communities as being one of the last straws. Return of water to the environment is being perceived as an attack

30 Auscott Ltd, *Submission 301*, pp. 2-3.

31 Sunraysia Rural Counselling Service Inc., *Submission 384*, p.4.

32 Mr Forbes, Sunraysia Rural Counselling Service Inc., *Transcript of Evidence*, Mildura, 19 January 2011, pp. 14-18.

> on community livelihood. We are talking about community not just irrigation farmers at this point. The way the plan has been presented and the level of anger that has come from a lot of the communities is a really good sign of this.[33]

3.49 Yet, as discussed throughout this report, there is also significant support for continuing environmental protection and ensuring healthy working rivers. In the Committee's view, had the Guide been developed in a way that was sensitive to the realities of farming communities, much of the anxiety in communities could have been avoided.

Interdependence of communities

3.50 Much of the focus of the Guide, the Water for the Future and other government assistance programs (discussed in Chapter 5) has been on irrigator assistance and efficiency.[34] Communities and the productive enterprises that make them up are interdependent. Communities rely on the productive capacity of irrigators, they are valuable contributors to the economic success of their communities, and irrigators want to live in vibrant, healthy communities.

3.51 Farmer spending is a significant contributor to retail and wholesale trade, finance and business sectors, transports, machinery and storage in Basin towns and cities.[35] This spending has reduced over the period of the drought with significant farming income being derived from off-farm sources, coupled with increasing debt:

> Most irrigation farms had some form of off-farm income. About one-third obtained more than 50 per cent of total family income from off-farm sources. On average, about one-third of the total off-farm income earned by irrigation farms in 2007–08 was from wages or salaries, while about half was from sources such as government assistance and non-farm investments.
>
> Average farm business debt for irrigated broadacre and horticulture farms in the basin rose in 2007–08, while for dairy farms there was a small decline. The major components of farm debt were land-purchases debt and working capital debt.[36]

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33 Mr Ross Neville, Uniting Church in Australia, *Transcript of Evidence*, Canberra, 23 March 2011, p. 32.

34 For further discussion on this issue, see Lin Crase, *Submission 323,* p. 10.

35 Victorian Farmers Federation, *Submission 395*, p. 20.

36 Department of Agriculture, Fisheries and Forestry, *Submission 473,* p. 10.

3.52 Due to the drought, farm sector debt has accelerated and many have been pressured to make decisions to sell water assets making it difficult to meet future production and service debt:

> many farmers have very substantial debt. The most valuable asset that most farmers have in terms of securitising that debt is their water allocation. That is of major concern. … We are hearing on the grapevine that where banks have concerns with a client's borrowings the first target is usually the suggestion of selling some water so that they can sure up their capital position with the bank. But, of course, that has an effect on production or the farmer having to buy temporary water.[37]

3.53 The Committee was told that individuals, families and communities are exhausted by the intense pressures faced in recent years. Many told the Committee that they were so exhausted by the constantly changing water policy arena that they were ready to give up farming rather than have to implement a new set of regulations. This, coupled with general pressures facing farmers, may see the closure of a significant number of farming operations:

> Many of the smaller businesses have reduced labour and are now relying on more input from family members. Family energy reserves have been depleted and are not sustainable.
>
> If the economic activity of the past few years continues, communities will be in trouble and come under significant economic pressure as 20 per cent of businesses indicated they would close if the operating environment does not improve. This economic pressure will exacerbate human stress and health impacts, and undermine the community fabric.[38]

3.54 Individual family farming operations are also often employers in small communities. These individuals not only feel responsible for their own family welfare, but that of their employees. The Committee was repeatedly told stories like the following:

> At the moment there are fourteen families dependant on employment with the Pechelba Trust group, and as we shop locally as much as we can, there is a significant flow on effect for the towns of Moree, Dirranbandi, Wee Waa and Narrabri. There are fourteen children of Pechelba employees either attending

37 Mr Andrew Forbes, Sunraysia Counselling Service, *Transcript of Evidence*, Mildura, 19 January 2011, p. 14.

38 Australian Dairy Industry Council, *Submission 196*, p. 9.

> school or pre school, and using the medical and other services provided in our local towns.
>
> All have been put under immense stress since the release of the Draft Murray-Darling Basin Plan.
>
> They all know that without water we will be unable to guarantee them employment, and that if they do lose their employment it will mean shifting out of the irrigation areas and moving God know's [sic] where to try and support their families in a strange area, where they don't know anyone, and will not be able to perform the work they have been trained to do.
>
> From the Cush families' perspective – we have even more stress to cope with. Not only do we feel very much for our employees, but we must meet our commitments to the bank on loans that were put in place years ago to service expansion into irrigation that would provide for the future needs of our families. It is just not possible to service these debts without being able to use the full capacity of the water we have purchased.[39]

3.55 Farming is not only a way of life, but it is integral to how farmers perceive their identity and their legacy for future generations. Repeatedly the Committee heard sentiments such as 'we do this because we love it' and 'it's a lifestyle, not a job' and 'I want to pass this land on to my children'.

3.56 The farm is part of the regional Australian identity:

> In rural Australia, the family farm is an important cultural foundation of rural society. As a cultural symbol, the family farm is the tangible expression of rugged independence where the man on the land is held to be in charge of his own destiny. Over time, the family farm has become an extension of the landholder's personality, an outward reflection of their prosperity and, the embodiment of their intergenerational aspirations. Farmers seek to ensure their land is turned over to the next generation in a much better condition than when they commenced farming the land.
>
> For many landholders, their ability and skill as a farmer underpins their social standing within the community. It also serves to align their cultural image with the self-image farmers hold of themselves as being good stewards of the land.[40]

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39 Ian and Robyn Cush, *Submission 89,* pp. 1-2.

40 Dr Barry Hancock, *Submission 356*, p. 4.

3.57 Pressures of farming affect more than just individual and family mental health they affect the wellbeing of communities. When farmers and farming communities cannot fulfil their role as land stewards due to external pressures such as government policy and drought, the impact is greater than falling economic security. The welfare of Basin communities is of utmost importance in any Basin planning process.

Use of science and data

3.58 The former chair of the MDBA repeatedly told the community, and this Committee, to 'question the science'. Although the CSIRO states that the MDBA did not use 'best science' in a number of areas, it is the assumptions that have been made by the MDBA that are of particular concern.

3.59 The work done by the CSIRO in its Sustainable Yields project formed the basis of a lot of the modelling that underpinned the Guide.[41] Even with this as a basis, the CSIRO expressed dissatisfaction in the assumptions applied by the MDBA and the way the results were communicated:

> There are a number of areas where our view is that what is documented in the Guide either does not represent best available science, or does not represent appropriate application of best available science in the context of the Basin Plan and the wider context of the National Water Initiative. There are also areas where the explanations in the Guide are either misleading or do not fully articulate key assumptions made by the Authority.[42]

41 Mr Russell James, Water Resources Branch, SEWPAC, *Transcript of Evidence*, Canberra, 9 February 2011, p. 11.

42 Dr Bill Young, Director, Water for a Healthy Country Flagship, CSIRO, *Transcript of Evidence*, Canberra, 25 February 2011, p. 12.

3.60 A review undertaken by a panel of international experts, chaired by Professor John Briscoe from Harvard University, came to the following assessment of the methodologies used in the development of the science behind the Guide:

> The Murray–Darling Basin Authority (MDBA) has been required to develop a method to determine the environmentally sustainable level of take within a very short timescale and with access to only limited types and coverage of data. Against this background, reviewers concluded that the methods being used to determine the environmentally sustainable level of take are scientifically robust, appropriate and fit for purpose. The method for surface water, which integrates a Basin-wide, environmental flow assessment based on the water requirements of key ecosystem functions and a detailed assessment of the environmental water requirements of 18 hydrologic indicator sites, represents a rigorous and scientifically defensible approach. A considerable spread of scientific knowledge has been used, including contributions from a number of respected scientists, and for the most part the method uses 'the best available science' as required by the Water Act 2007 (Cwlth).[43]

3.61 The Commissioner of the NSW Office of Water, Mr David Harriss, outlined for the Committee the extent of the data and modelling that was provided to the MDBA for the purpose of preparing the Guide:

> We provided them access to our models. We provided an access to how to use the models and the technical support. But as the minister said in his opening address, we provided no assistance in interpretation of the results of those models or their application to how they would be used to determine a sustainable diversion or anything like that. That was solely the responsibility of the authority.
>
> Certainly from the Office of Water's position, we did not offer any technical support in telling them what the environmental needs of any particular wetland were other than to identify what we had done previously in our water sharing plans, which is in the public domain in any case. I cannot speak on behalf of any other organisation that might have provided advice, or any of the universities or research institutions, but certainly from the Office of Water's perspective we provided them all of our technical information. We do currently manage the biggest hydrometric

43 MDBA, *Developing the Guide to the proposed Basin Plan: Peer Review Reports*, 2010, Canberra, p. 44.

> network in Australia so they have access to all our real-time data and all our historical records. They had all that information and they had all the technical support to be able to use it. But I emphasise that we were not party to the interpretation of that information.[44]

3.62 Mr Harriss expressed to the Committee frustration that NSW was not involved in the how the data was used:

> Again our response to the guide to the plan is in the public domain. We were quite critical in as much as we have not been party to the assumptions that were used in that modelling to determine the sustainable diversions limits or the methodology used to determine the needs for the environmental assets. We are still having an interchange with the authority trying to seek that information, because at the moment it makes it difficult for us to stand up and either support or discredit or do whatever if we do not really understand the mechanics behind it.[45]

3.63 The international peer reviewers, in their report on an earlier draft of the Guide, while praising work of MDBA staff and the quality of the science, concluded in their report that:

> Our single most important concern is about the lack of strategic direction very late in a process with a goal to produce a plan which is clear and would achieve broad public acceptance. Our conclusion is that much excellent work has been done on the components and details of the plan. But how the parts add up to a whole is not clear to us. More importantly we perceive that MDBA's superb staff are looking for guidance on how this all fits together and how to direct their limited resources under very tight time constraints to produce an excellent and understandable product. Our impression is that the senior management and the board need to provide a clear strategy and direction to the staff producing the plan.[46]

3.64 Mr James Delahunty from the Wimmera Irrigators Association, identified a key example of how a simple erroneous assumption, caused by a lack of local knowledge or consultation, can significantly change the outcome:

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44 Mr David Harriss, Deputy Director-General and Commissioner, New South Wales Office of Water, *Transcript of Evidence*, Canberra, 9 February 2011, p. 21.

45 Mr Harriss, *Transcript of Evidence*, Canberra, 9 February 2011, p. 21.

46 MDBA, *Developing the Guide to the proposed Basin Plan: Peer Review Reports*, 2010, Canberra, p. 44.

> The draft plan clearly says that there is no more water required for the environment in the Wimmera-Avoca region. We think they have made an error there. ...
>
> Chapter 18 in the draft plan, which assesses the environmental water requirements for the Wimmera River terminal wetlands, draws heavily from a report which was done by the Ecological Associates in 2004. A lot of the Ecological Associates report has been transposed from that report directly into chapter 18 in a different format. One thing they did not transpose into the draft is a chart, a copy of which I have here. ... It has three sections: it fails to meet the objective, largely meets the objective or meets the objective. This is for getting water into Lake Albacutya and Lake Hindmarsh, which are the terminal lakes of the Wimmera River.
>
> The enhanced flow scenarios here show that to largely meet the objective they need an enhanced flow of at least 80 gigalitres. The presumption would be that the 83 gigalitres that have been saved from the Wimmera Mallee pipeline are significant enough to meet the 'largely meets the objective' level. Unfortunately, of the 83 gigalitres that are saved from the Wimmera Mallee pipeline, only 45.6 gigalitres are destined for the Wimmera River. The remainder is destined for the Yarriambiack Creek flow. The Glenelg gets 22 gigalitres and Richardson River gets four gigalitres. The Waranga Channel is another nine gigalitres. It appears that they are only getting about half of what they think they are going to get. The chart shows that just 20 gigalitres make a big difference between failing to meet the objective and largely meeting the objective—from 80 gigalitres to 100 gigalitres. We are proposing that the Wimmera River does indeed need the water that the Wimmera irrigators have available to meet that objective.[47]

3.65 In summary, it appears that the MDBA may have started with some sound methodologies, high quality data and respected modelling, yet delivered a document which fails to provide a credible scientific basis for the proposed SDLs. The following statements, both by Professor John Briscoe of the School of Public Health at Harvard University point to the likely cause of this outcome being a) requiring a technical based agency to make political trade-offs and b) a failure to draw upon relevant expertise:

> This was clearly an impossible task given to the Authority, because they were somehow supposed to just use science but also

47 Mr James Delahunty, Secretary, Wimmera Irrigators Association Inc., *Transcript of Evidence*, Swan Hill, 30 March 2011, p. 50.

> somehow relieve political leaders of their responsibilities to make this choice. That is a political issue....You cannot tell a technical agency to optimise both [environment and economy] because there are trade-offs between them.[48]
>
> Time and again I heard from professionals, community leaders, farmers and state politicians who had made Australia the widely-acknowledged world leaders in arid zone water management that they were excluded from the process.[49]

3.66 Even though there are serious concerns about how the data and science has been used to develop the proposed SDLs, this should not be used to denigrate the science that was available to the MDBA, which is amongst the world's best. It does call into question, however, the SDL 'numbers' recommended.

3.67 There are gaps in data in some of the less regulated systems, particularly in the northern Basin, however this is due to a lack of monitoring. The scientific knowledge and management practices will be improved if better monitoring is put in place throughout this system. This is further discussed in Chapter 5.

Treatment of urban water

3.68 The treatment of urban water is illustrative of the questionable assumptions made in the Guide. Some of the key issues of concern are:

- the exclusion of consideration of systems with consumptive use primarily in urban areas, resulting in irrigators bearing an unfair burden of entitlement reduction; and
- significant cuts to entitlement that result in a very low return to the environment.

3.69 There are some systems that will return very little water to the environment through proposed SDLs, and yet due to the relative difficulty in reducing urban water use, the impact on irrigation entitlement holders will be devastating. For example, in the Kiewa and Ovens regions in northeast Victoria where the majority of consumptive water use is for urban needs with a relatively small diversion for irrigation:

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48 *Australian Financial Review,* 'Water expert rebuts claims', 2 November 2010, p. 7.

49 Professor John Briscoe, Submission to Senate Inquiry into the provisions of the *Water Act 2007*, *Submission 2*, p. 5.

> … the town supplies extraction is nearly as much as the irrigation. Because of this fairly unique situation—if not absolutely unique—the proposed cut to the active diversions of 40 to 45 per cent as set out in the guide all falls on the irrigation element of that, which effectively cuts our irrigation allocations by over 70 per cent.[50]

3.70 It was explained that, in practical terms:

> The guide then says that a 40 to 45 per cent cut will be made on the irrigation factor—because they will not touch townships. So they are applying the 40 to 45 per cent on the total 25 diversions and then subtracting that from the irrigation. If you do the maths on that, they are putting 40 per cent on 25 and they come up a figure of 10 and they deduct that from the 14 that are used for irrigation. We are left with four. So out of 1,804 gigalitres generated out of the system, four would remain for irrigation. It effectively devastates irrigation for the north-east.[51]

3.71 The approach to urban water in the Guide is also problematic for the ACT where almost all of the water use is for urban purposes yet it is faced with the same significant reductions applied to the rest of the Murrumbidgee catchment. The ACT Government noted:

> The MDBA does not recognise the ACT as a separate water resource management area that generates and manages water resources within the broader Murrumbidgee River catchment. The ACT, while identified in the Guide as a SDL area, is simply treated as a sub-unit of the broader Murrumbidgee region, without any analysis or understanding of the management of water resources within the ACT region. The Guide simply adopts a figure of 39 GL/y as the watercourse current diversion limit for the ACT SDL area, which is based on the ACT Cap under the Murray-Darling Basin Agreement.
>
> As a pertinent example, the Guide only provides a summary of the entire Murrumbidgee region which describes it as being in very poor ecological, hydrological and streamflow condition. The CSIRO report on which this summary is based states that the relative level of surface water use under current development in the region is 53 per cent, noting this is an extremely high level of

50 Mr Anthony Griffiths, Mayor, Wangaratta Rural City Council, *Transcript of Evidence*, Shepparton, 21 January 2011, p. 33.

51 Mr Douglas Sharp, Chief Executive Officer, Wangaratta Rural City Council, *Transcript of Evidence*, Shepparton, 21 January 2011, p. 35.

> development. This description is not reflective of the Upper Murrumbidgee River catchment where the ACT sits.[52]

3.72 The proposed reduction for the ACT places it at the same significant disadvantage as some irrigators given the limited ability to reduce urban water use and the inability for the ACT Government to influence water use in the surrounding Murrumbidgee catchment.

3.73 Mr Corbell MLA pointed out that, unlike elsewhere in the Basin, the ACT will not be able to participate in strategic water buyback:

> ...the MDBA is proposing a maximum usage at its highest level of reduction of only 22 gigalitres, which would have an enormous impact on this city. I also make the point that, unlike other jurisdictions and other areas in the basin, there is no opportunity for the Commonwealth to buy back water in the ACT. There are no allocations that it can purchase there. For the territory, that means if the MDBA imposed a reduction of this order we would be releasing water from our dams to meet the reductions and then we would have to buy that water back once it crossed the border and buy it from other parts of the basin to bridge the gap. We just find that to be an absurd proposition.[53]

3.74 It is apparent that the decision by the MDBA not to distinguish between urban and agricultural water is not rational. While urban water users should share the burden of reducing the diversion of water from the Basin through responsible use of water, consideration is needed of how this responsibility can be met in a way that is compatible with the nature of the usage.

52 ACT Government, *Submission 526,* p. 10.

53 The Hon. Simon Corbell, Minister for the Environment, Climate Change, Energy and Water, ACT Government, *Transcript of Evidence*, Canberra, 23 February 2011, p. 4.

Consideration of climate change

3.75 The Committee heard a number of concerns about the way that climate change has been factored into the setting of the SDLs and the lack of clarity around this.

3.76 In their submission to the inquiry, Environment Victoria highlighted inconsistencies between the MDBA and CSIRO estimates of climate change impact:

> The Guide suggests that surface water availability will decline across the Basin by about 10 percent by 2030. The CSIRO Sustainable Yields Project predicts much greater variability even under the median 2030 climate change scenario. Under this median scenario, diversions in the driest years would fall by more than 10 percent in most NSW regions, around 20 percent in the Murrumbidgee and Murray River regions, and from around 35 to over 50 percent in the Victorian regions. Reductions under more severe scenarios are much greater.
>
> In its Guide to the Plan, the MDBA proposes a reduction of water allocations of just 3 percent to allow for climate change. This allowance is based on CSIRO's median forecast, halved on the basis that part of the impact should already be present, and halved again to reflect the envisaged ten year (2011 to 2021) life of the plan (even though Victorian implementation would only commence in 2019 and finish in 2024).
>
> This approach seems rash for a number of reasons. Firstly, a 3 percent reduction in water availability (based on long term averages) during the 10 year life of the Plan appears to be a massive underestimate in the light of recent experience.[54]

3.77 The Australian Dairy Industry Council put a view that opposes the Environment Victoria position, in that the climate change effect is too uncertain and that climate change impacts should be deferred to subsequent plan reviews.[55]

54 Environment Victoria, *Submission 317*, pp. 13-14.

55 ADIC, *Supplementary Submission 196,* p. 5.

3.78 Concerns were also raised regarding the lack of consideration for regional differences in how climate change will impact different regions of the Basin.[56] CSIRO expressed the same concern in their submission to the MDBA consultation on the Guide:

> ...the projected climate change to 2030 from the MDB Sustainable Yields program are very different for different regions. There will be much greater impact on water resources in the southern basin than the northern basin. This is easy to incorporate because the time series of changed inflows have been made available by CSIRO. However these regional patterns and the requirements of each regional plan do not seem to have been included in the guide.[57]

3.79 The NSW Government raised concerns about the lack of evidence in the Guide supporting the adoption of a three per cent reduction in diversions due to climate change.[58]

3.80 Mr Nigel Parratt of the Queensland Conservation Council put to the Committee that the assumption regarding climate change in the Guide are inconsistent with those being made in other planning frameworks.[59]

3.81 The CSIRO, are very critical of the way that climate change was incorporated into the Guide:

> ... modelling of the impacts of potential climate change has not been used to determine the SDL. The explanations of climate variability and climate change considerations in the Guide are vague, and different interpretations are possible. There are three main issues:
>
> (i) The guide tries to justify why the climate projections to 2030 are not fully included in the plan. This justification does not appear correct or defensible.
>
> (ii) Climate projections show variable impacts will occur across the basin and this variation has not been included.
>
> (iii) The guide advocates that climate change be dealt with in regional water sharing plans but the methods to do that

56 Orana Regional Organisation of Councils, *Submission 582*, p. 6; Council of the Shire of Bourke, *Submission 247*, p. 9.

57 CSIRO, *Submission to the MDBA consultation on the Guide to the proposed Basin Plan*, December 2010, p. 12.

58 NSW Government, *Submission 585*, pp. 34-35.

59 Mr Nigel Parratt, Rivers Project Officer, Queensland Conservation Council, *Transcript of Evidence*, Goondiwindi, 16 March 2011, p. 20.

> appear impractical and in fundamental conflict with other objectives of regional water sharing plans. The conclusion for this is that projected climate change has not been fully included in the plan or any subsequent processes. [60]

3.82 The above comments made by the CSIRO are of particular concern as the MDBA repeatedly reference research by the CSIRO when discussing their consideration of climate change in the Guide.[61] In their submission to the MDBA process, the CSIRO provide the following criticisms:

> There are flaws in the reasoning for the 3% reduction and it is certainly not based on CSIRO science or advice. It is not possible to understand how this '3% reduction' is accounted for in the report. It does appear that it is accounted for only in the environmental water requirement. This is inadequate as climate change will impact first on inflows and then have flow-on consequences for all uses.
>
> ...
>
> At the very least some discussion should be provided of the expected environmental consequences of climate change and the implications for water planning and SDLs. Analysis and discussion of without development flow regimes under future climate would provide a basis for this.[62]

3.83 It is clear that the MDBA has, in coming to a position on the proposed SDLs made a number of poor assumptions using what is otherwise sound science. In addition, the logic for applying three per cent for climate change appears flawed and clearly needs to be given serious reconsideration.

60 CSIRO, *Submission to the MDBA consultation on the Guide to the proposed Basin Plan*, December 2010, p. 11.

61 MDBA, *Guide: Volume 2,* pp. 118-124.

62 CSIRO, *Submission to the MDBA consultation on the Guide to the proposed Basin Plan*, December 2010, p. 11.

Recommendation 2

The Committee recommends that the Murray Darling Basin Authority apply greater rigour to the assumptions made to develop the proposed sustainable diversion limits, including the forecast impact of climate change, taking into account regional variability.

Review mechanisms

3.84 Under the Water Act, the MDBA is required to:

- advise the Basin Ministerial Council on the impacts of the Basin Plan five years after the Plan takes effect and publish this advice on its website;[63]
- undertake regular ten yearly reviews of the Plan.[64]

3.85 The MDBA may also be compelled to review the Basin Plan if requested by the Commonwealth Minister or all of the Basin States if they are not satisfied that the outcomes are being achieved and in practical effect, this could result in five yearly reviews.[65]

3.86 The Act also requires the MDBA to prepare a discussion paper for community consultation and how this consultation is to take place.[66]

3.87 Given the Committee's concern about the initial assumptions made by the MDBA, it considers that this review mechanism in the Act is of vital importance and the recommendation in the following Chapter regarding how the MDBA should approach the development of the Basin Plan also applies to how it conducts these reviews.

63 The Act, Section 49A.
64 The Act, Section 50(1).
65 The Act, Section 50(2).
66 The Act, Section 51.

Setting sustainable diversion limits for groundwater

3.88 The Committee heard concerns regarding the way that the MDBA addressed groundwater use in the Guide. These concerns relate to the unreliability of data on groundwater and the need to acknowledge past reform, particularly the Achieving Sustainable Groundwater Entitlements (ASGE) program in NSW. [67] Concerns were also expressed with regard to how the Government's commitment to 'bridge the gap' will be applied to groundwater.[68]

3.89 With regard to the modelling for groundwater, the MDBA acknowledged that there is significant uncertainty associated with modelling of groundwater systems that show strong declining trends in groundwater levels.[69]

3.90 Mr Paul Trevethan of Howlong, NSW, provided an example where the use of groundwater data by the MDBA is inconsistent with other existing programs:

> The MDBA Draft Plan suggests that the 015 aquifer is not highly connected to the Murray River. However, in a recent meeting with NSW departmental officials, we have been informed that the 015 aquifer derives about 50% of its recharge from the Murray River. Whilst these two notions may be compatible (the MDBA Plan states low connectivity with the river if less than 70%), surely there needs to be a reconsideration of the inequity of treatment of surface and groundwater with respect to current diversion limits and sustainable diversion limits. The need for a review of this policy is even more necessary where it has been deemed that connectivity between surface water and groundwater is evident.
>
> If we are to believe that surface water and groundwater is a continuum, why are they treated as significantly different for the purposes of the MDBA Plan?[70]

67 For example see: United Dairy Farmers of Victoria District Council 3, *Submission 530,* p. 9.

68 Lachlan Valley Water Inc., *Submission 469*, p. 9.

69 MDBA, *Guide: Volume 1*, p. 76.

70 Paul Trevethan, *Submission 355,* p. 2.

3.91 Along with others presenting evidence to the Committee, Mr Jonathan Phelps, Director of Namoi Water, suggested that previous reforms of groundwater have claimed to be based on 'best available science' and questioned how the MDBA can then set even lower SDLs using the same science:

> There is plenty of evidence to support the Namoi groundwater licence holders' supportive role during the reductions. We strongly supported the COAG principles of the time to ensure sustainability of the resource, ensure fairness, maximise economic output, minimise negative social impacts and mitigate the impacts.
>
> To see in this MDBA plan a section on groundwater suggesting a further cut of 11 gigs using the same science but, as they say, a more conservative approach is very disturbing.[71]

3.92 The ASGE program is described by Murrumbidgee Groundwater Incorporated (MGI) as follows:

> Our region has been through the Achieving Sustainable Groundwater Entitlements program (ASGE) funded by the Commonwealth and NSW governments. The program aimed to reduce the use of groundwater in our region to a sustainable level. As a result our constituents have already worn a high level of water reform and have been forced to restructure their farming operations to adjust to the changes. [72]

3.93 While MGI acknowledged that these cuts appeared to be factored into the proposed SDLs in the Murrumbidgee region, this is not the case in the Namoi:

> ...the Namoi Councils Water Working Group have also raised issues and considerable concern with the MDBA's approach to setting SDLs for groundwater and the proposed reductions, particularly given the recent reductions already achieved through the $135 million Achieving Sustainable Groundwater Entitlements (ASGE). The difference between "sustainable yield", i.e. the basis for the ASGE Program and the "sustainable diversion limits" that warrants a further 13% in the Lower Namoi Alluvium diversions needs explanation.[73]

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71 Mr Jonathan Phelps, Director, Namoi Water, *Transcript of Evidence*, Gunnedah, 14 February 2011, p. 22.

72 Murrumbidgee Groundwater Inc, *Submission 464*, p. 2.

73 Namoi Councils Water Working Group, *Submission 517,* p.12.

3.94 The Committee is concerned that the MDBA have proposed significant reductions in groundwater use without:

- confidence in the available modelling for groundwater systems;
- adequately communicating their use of existing data; or
- acknowledging past reform efforts and how they were taken into account.

Recommendation 3

The Committee recommends that the Murray Darling Basin Authority improve data on groundwater availability, use and connectivity with surface water prior to proposing sustainable diversion limits for groundwater.

Reputation of the Murray-Darling Basin Authority

3.95 The Murray-Darling Basin Authority as an organisation is built on a history of achievement dating back to the creation of the River Murray Commission in 1915. The River Murray Commission became the Murray-Darling Basin Commission (the Commission) in 1985.

3.96 Until the release of the Guide in October 2010, the Commission enjoyed a high level of respect in regional areas in the Basin and internationally as a science and engineering based institution. As an agency, the Commission successfully delivered programs such as the Salinity Management Strategy; Native Fish Strategy; the Living Murray Initiative; the Sustainable Rivers Audit; the implementation of the Cap on Diversions and the operation of the River Murray. The Commission was responsible for a long history of funding robust and respected scientific research. The Commission also held strong and productive relationships with state agencies and regional communities.

3.97 Judging from the evidence provided to the Committee by CSIRO and state governments, the development of the Guide has damaged the MDBA's relationship with the states and the science community. Professor Ray Ison of the Monash Sustainability Institute's National Water Governance Research Initiative identified this and a potential cause:

> We have done research within the Murray-Darling Basin Authority since it was set up, so we have a certain amount of insight into its functioning. In the academic area I come from, the

> concept of initial starting conditions is quite important. How you start out is what determines where you end up. The MDB, unfortunately, started out by interpreting its predecessor as a failure and failed to then take on board a lot of the learning that the Murray-Darling Basin Commission had. It certainly failed to take on the good network of regional relationships that that commission had.[74]

3.98 It is easy to see in the language and sentiments expressed in evidence that the reputation of the MDBA has clearly been damaged as a result of the Guide. The loss of the previously held regard is evident in the submission from the Wakool Landholders Association, which notes the need for community confidence in the capabilities and integrity of the MDBA in achieving water reform objectives:

> As far as our association is concerned the MDBA has lost all creditability in our community. To rectify this situation the MDBA must engage and consult with the basin communities at a local level. We need confidence that the Authority retains its non-political status and has impartial views that don't reflect the attitudes of various environmental groups. This unbiased approach is fundamental to restoring respect from all Australians.[75]

3.99 A lot of the problems relating to the Guide and how it was received stem from decisions about how to work with communities, industries, scientists and state and territory governments; how the science should be used; and appropriate SDLs would be delivered and communicated in the Guide and the media. These are strategic decisions for which the executive and Board of the MDBA should accept responsibility.

3.100 As the MDBA will continue to be the central agency responsible for the implementation of the Basin Plan and developing future iterations of the Basin Plan, it is important that its standing in the community be restored. The recommendations in the following Chapter are proposed to achieve this.

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74 Professor Ray Ison, Systems for Sustainability, Monash Sustainability Institute, National Water Governance Research Initiative, *Transcript of Evidence*, Canberra, 2 March 2011, p. 20.

75 Wakool Landholders Association, *Submission 288*, p. 1.