



JOB IMPACTS

FROM WATER RECOVERY FOR THE ENVIRONMENT IN
THE SOUTHERN MURRAY-DARLING BASIN

NSW IRRIGATORS' COUNCIL

<https://www.nswic.org.au/>



Image: Plum Harvest, Lower Murrumbidgee (March 2022)

KEY FINDING

30% of the **10,801.5** FTE jobs lost across 40 southern Murray-Darling Basin communities from 2001 to 2016 were attributed to water recovery for the environment.

KEY FINDINGS

- Thirty per cent (3261) of 10,801.5 FTE jobs lost across 40 southern Murray-Darling Basin communities from 2001 to 2016 were attributed to water recovery for the environment.
- Job losses due to environmental water recovery as a proportion of total jobs lost by State:
 - NSW 21%
 - Victoria 30%
 - South Australia 45%
- In 11 communities, more than 24% of each community's water entitlements were recovered for the environment.
- In six communities, 20-24% of each community's water entitlements were recovered for the environment.
- In 15 communities, most in NSW and South Australia, the impact of water recovery may be underestimated due to the prevailing social and economic conditions.
- Mildura (Victoria), Mirrool (NSW) and Murray Bridge (SA) were the only communities to gain jobs (24%, 7% and 26% respectively), but jobs growth would have been 5-7% higher (Mildura and Murray Bridge) and 1.5% higher (Mirrool) if not for water recovery.
- Several Riverland communities offset the impact of local water recovery by buying entitlement from communities elsewhere in the southern Basin to replace what they lost.
- Job losses due to water recovery were relatively high in several small communities, such as Wakool (NSW), where the impacts on local business, sports and services are magnified.
- Only 7% of water sellers surveyed in 2012 sold water entitlement to raise capital for on-farm investment, and only 10% sold what they considered to be entitlements surplus to their need.
- Sixty per cent of surveyed sellers sold water entitlement under duress to generate cashflow, mostly to reduce debt or increase farm viability under pressure in the Millennium Drought and the fallout from the 2008 Global Financial Crisis.

EXECUTIVE SUMMARY

The Murray-Darling Basin Authority (MDBA) analysed socioeconomic trends and impacts in 40 communities in the southern Basin in 2017. The 40 profiles were published on its website in 2018 as separate files, without an overarching report collating the results and overall trends.

This made it very difficult to see the big picture of socioeconomic impact, or the uneven nature of those impacts between communities. The purpose of this document is to provide that overarching report, relying solely on the official data from these profiles. This report is structured as:

- (i) Water recovery for the environment by community.
- (ii) Net FTE job losses across the community economies attributed to water recovery.

Collating the profiles shows that 10,801.5 FTE jobs were lost across the 40 profiled communities between the 2001 and 2016 Censuses. Of the 10,801.5 lost FTE jobs, the MDBA modelling attributed 7540.5 (70%) to non-Basin Plan factors and 3261 (30%) to water recovery for the environment under the Murray-Darling Basin Plan and earlier reforms such as The Living Murray and Water for Rivers.

Job losses in different communities did not necessarily correlate with the volume and proportion of water entitlements transferred out of each community to the environment. This reflects that job losses linked to water recovery were not confined to agriculture but rippled out beyond the farm gate and across regional economies to affect other communities where, for example, key service industries, processing, health and education, and small businesses may be located.

Many jobs lost due to water recovery were in small communities where the impacts are magnified. Fewer jobs mean less money spent in small businesses and service industries. If job losses result in families leaving the area, the impacts are further magnified in terms of the viability of education, health and other services, and social wellbeing such as being able to field sports teams.

The jobs losses due to water recovery represent a clear case of Government policy decisions leaving Basin communities worse off than they would otherwise be, and undermining their capacity to adapt to change, much less prosper.

It also shows how one policy instrument is significantly contributing to declining employment in these communities, and consequently the flow on-impacts across their economies.



BACKGROUND

The MDBA's 2017 Basin Plan Evaluation¹ considered whether the Plan's environmental, social, cultural and economic outcomes were in line with what was expected in 2012.

At a whole of Basin level, the changes in social and economic conditions were broadly consistent with the changes expected at that stage of the Basin Plan's implementation.

However, while the impacts at a Basin or regional scale appeared modest, feedback from stakeholders and community members suggested the Basin-scale analysis failed to detect the sometimes significant impacts being felt by smaller, irrigation-dependent communities.

The MDBA consequently identified the indicators that best define how Basin communities are changing over time and developed community profiles based on this information.

It assessed how water recovery from farmers for the environment under the Basin Plan and pre-Plan programs contributed to changes to the area of irrigated production and to employment.

Profiles were provided for:

- 40 irrigation-dependent communities in the southern Basin valleys.
- Five communities with little or no irrigated agriculture.
- The centres of Deniliquin and Shepparton-Mooroopna.

The change time frame was the 2001 to 2011 to 2016 Censuses.

Most water recovery for the environment occurred from 2008 to 2012. Water recovery is both direct buybacks from farmers and indirect purchases through Government funding on-farm water efficiency projects in return for farmers transferring water entitlements to the environment.

Both recovery methods reduce the total volume of water available for irrigated agriculture.

Modelling includes water recovery for the environment under the Murray-Darling Basin Plan, and State and federal pre-Plan programs such as The Living Murray and Water for Rivers.

The 2018 southern Basin community profiles complement similar profiles published in 2016 for 21 communities in the northern Basin.



Image: Mandarins – Curlwaa (May 2021)

¹ [Southern Basin community profiles | Murray-Darling Basin Authority \(mdba.gov.au\)](#), [Water recovery in the southern Basin | Murray-Darling Basin Authority \(mdba.gov.au\)](#)

REPORT

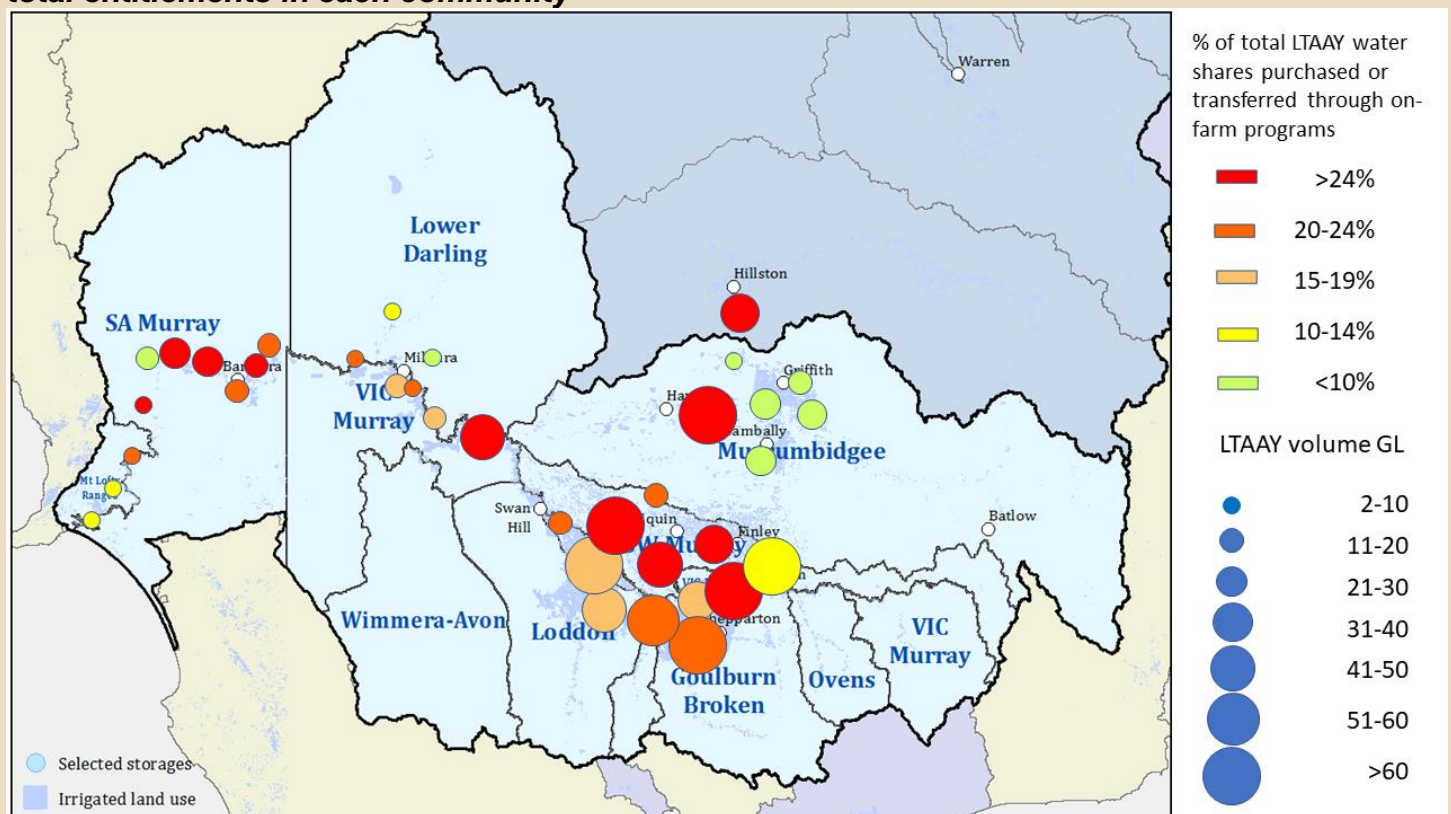
WATER RECOVERY

The map below collates the volume and percentage of water entitlements recovered for the environment out of the total entitlements in each community. Water recovery volumes are expressed as the Long-Term Average Annual Yield (LTAAY)² on the entitlements recovered.

The recovered volumes include entitlements purchased through direct buybacks and purchased indirectly through on-farm efficiency programs where farmers transferred entitlements to the Government in return for funding water-efficiency projects on their farms. Both recovery methods reduce the total water available for growing food and fibre.

ABARES has estimated that the reduction in the water available to grow food and fibre under the Basin Plan so far has pushed up temporary, or allocation, water prices by an annual average \$72/ML.³

Map 1: volume and percentage of water entitlements recovered for the environment out of total entitlements in each community



The larger the dot, the higher the volume of water entitlement recovered from that community. The redder the dot, the higher percentage of total entitlements in that community was recovered.

² [Water recovery accounting - DCCEEW](#)

³ [Economic effects of water recovery in the Murray–Darling Basin - DAFF \(agriculture.gov.au\)](#)

Table 1 shows the volume of water recovered (GL) from the 40 profiled communities and the percentage of their total entitlement that this represents.

Table 1: Volume of water recovered per community profile area

Community	IIO	GL recovered	% of total entitlement
New South Wales			
Benerembah (east of Griffith & Darlington Point)	Murrumbidgee Irrigation	25 GL	12.1%
Hillston (north-west of Griffith)	Murrumbidgee Irrigation	31.3 GL	29.7%
Mirrool (north-east of Narrandera)	Murrumbidgee Irrigation	18.1 GL	3.8%
Tabbita (MI)	Murrumbidgee Irrigation	0.4 GL	1.7%
Wah Wah (west of Griffith)	Murrumbidgee Irrigation	9.8 GL	8.2%
Yanco (Leeton)	Murrumbidgee Irrigation	17.5 GL	4.6%
Coleambally	Coleambally Irrigation	25.1 GL	7.9%
Hay		70.7 GL	28.6%
Berrigan-Finley	Murray Irrigation	64.3 GL	10.4%
Wakool	Murray Irrigation	97.9 GL	38%
Deniboota (Bunnaloo, south-west of Deniliquin)	Murray Irrigation	49.5 GL	28.3%
Denimein (north of Deniliquin)	Murray Irrigation	16.1 GL	22.2%
West Berriquin	Murray Irrigation	31.9 GL	24.4%
Coomealla (western NSW Murray)	Western Murray Irrigation	6.5 GL	7.3%
Wentworth		4.1 GL	11.5%
Victoria			
Cobram	Goulburn Murray Irrigation District (GMID)	70.1 GL	24.6%
Kerang-Cohuna	Goulburn Murray Irrigation District (GMID)	64.6 GL	18.4%
Kyabram-Tatura	Goulburn Murray Irrigation District (GMID)	82.7 GL	20.7%
Pyramid Hill-Boort	Goulburn Murray Irrigation District (GMID)	40.8 GL	17.8%
Rochester	Goulburn Murray Irrigation District (GMID)	51 GL	23.3%
SIA (Arcadia Downs, Wunghu, Tallygaroopna)	Goulburn Murray Irrigation District (GMID)	30.8 GL	14.6%
Swan Hill	Goulburn Murray Irrigation District (GMID)	20 GL	20.4%
Merbein	Sunraysia (Lower Murray Water)	6.2 GL	20.5%
Mildura	Sunraysia (Lower Murray Water)	11 GL	17.2%
Red Cliffs	Sunraysia (Lower Murray Water)	9.4 GL	21.9%

Robinvale	Sunraysia (Lower Murray Water)	44.7 GL	44.2%
Colignan (btw Robinvale and Mildura)	Sunraysia (Lower Murray Water)	10.7 GL	15.6%
Cullulleraine (west of Mildura)		2.4 GL	35.6%
South Australia			
Berri	Riverland	12.9 GL	31.2%
Loxton (Riverland)	Riverland	14.2 GL	22.2%
Morgan (Riverland)	Riverland	2.1 GL	8.3%
Renmark (Riverland)	Riverland	27.8 GL	23.5%
Cobdogla-Barmera (Riverland)	Riverland	22 GL	53.1%
Waikerie, west of Riverland	Mid-SA Murray	20.7 GL	32.2%
Blanchetown (south of Riverland)	Mid-SA Murray	0.5 GL	17.4%
Swan Reach (south of Riverland)	Mid-SA Murray	4.3 GL	79.9%
Mannum	Lower-SA Murray	4.6 GL	32.8%
Murray Bridge	Lower-SA Murray	5.5 GL	20%
Tailem Bend (south of Murray Bridge)	Lower-SA Murray	1.7 GL	11.4%
Lower Lakes	Lower Lakes	4.7 GL	12.2%

As shown in Map 1 and Table 1 above - more than 24% of the water entitlement volume in each of these 11 communities was recovered for the environment:

- Hay (NSW, Murrumbidgee Valley)
- Hillston (NSW, Murrumbidgee Valley)
- Denibootea (NSW, Murray Valley, near Deniliquin)
- West Berriquin (NSW, Murray Valley, between Deniliquin and Finley)
- Wakool, (NSW Murray Valley)
- Cobram (Victoria, GMID)
- Robinvale (Victoria, Sunraysia)
- Berri (SA, Riverland)
- Barmera (SA, Riverland)
- Waikerie (SA, Riverland)
- Blanchetown (SA Murray).

In each of these six communities, 20-24% of the water entitlement volume was recovered for the environment:

- Denimein (NSW, Murray valley, near Deniliquin)
- Rochester (Victoria, GMID)
- Kyabram-Tatura (Victoria, GMID)
- Swan Hill (Victoria, GMID)
- Renmark (SA, Riverland)
- Loxton (SA, Riverland).

JOB LOSSES ATTRIBUTED TO WATER RECOVERY

A net 3,261 FTE job losses were attributed to water recovery for the environment.

Almost all communities profiled experienced a net loss in Full-Time Equivalent (FTE) jobs across their economies between 2001 and 2016, consistent with long-trends affecting rural Australia. The number of FTE jobs across the 40 communities profiled dropped 10,801.5, from 85,840 down to 75,038.5.

Of the 10,801.5 FTE job losses across the 40 profiled communities between 2001 and 2016, the MDBA modelling attributed 7540.5 FTE lost jobs (70%) to non-Basin Plan factors and 3261 FTE lost jobs (30%) to water recovery for the environment under the Murray-Darling Basin Plan and earlier reforms such as The Living Murray and Water for Rivers.

Job losses in different communities did not necessarily correlate with the volume and proportion of water entitlements transferred out of each community to the environment. This reflects that job losses linked to water recovery were not confined to agriculture, but rippled out beyond the farm gate and across regional economies to affect other communities where, for example, key service industries, processing, health and education, and small businesses may be located.

Many jobs lost due to water recovery were in small communities where the impacts are magnified. Fewer jobs mean less money spent in small businesses and service industries. If job losses result in families leaving the area, the impacts are magnified in terms of the viability of education, health and other services, and social wellbeing such as communities being able to field sports teams.

While the jobs losses due to water recovery occurred within a larger trend of jobs lost due to non-Basin Plan factors, they represent a clear case of Government policy decisions leaving Basin communities worse off than they would otherwise be, and undermining their capacity to adapt to change, much less prosper.

The next sections show the FTE jobs lost to water recovery by State, as well as the percentage of job losses due to water recovery out of total job losses.

New South Wales

Of a total of 3120.5 net FTE job losses between 2001 and 2016, 648 job losses (21%) were attributed to water recovery for the environment across 15 communities profiled in the Murrumbidgee and NSW Murray valleys. Job losses were particularly high in the Hay, Leeton and Wakool communities.

Table 2: FTE jobs lost to water recovery - NSW

Community	IIO	FTE jobs lost to water recovery	% job losses due to water recovery out of total job losses
Benerembah (east of Griffith & Darlington Point)	Murrumbidgee Irrigation	9	24%
Hillston (north-west of Griffith)	Murrumbidgee Irrigation	19	10.2%
Mirrool (north-east of Narrandera)	Murrumbidgee Irrigation	-	-
Tabbita (MI)	Murrumbidgee Irrigation	2	1.6%
Wah Wah (west of Griffith)	Murrumbidgee Irrigation	10	6.5%
Yanco (Leeton)	Murrumbidgee Irrigation	175	40%
Coleambally	Coleambally Irrigation	26	24%
Hay		122	30%
Berrigan-Finley	Murray Irrigation	40	3.8%
Wakool	Murray Irrigation	102	35%
Deniboota (Bunnaloo, south-west of Deniliquin)	Murray Irrigation	49	25%
Denimein (north of Deniliquin)	Murray Irrigation	9	10%
West Berriquin	Murray Irrigation	20	12%
Coomealla (western NSW Murray)	Western Murray Irrigation	33	11.3%
Wentworth		32	16%
Total		648	20.7%

The profiles for the following seven communities warned that given the prevailing social and economic conditions at the time of the water recovery and the trends of social and economic change affecting the community, it was possible the modelling results might under-estimate the effect of the Basin Plan water recovery:

- Berrigan-Finley
- Deniboota
- Denimein
- Wakool
- Wentworth
- West Berriquin
- Yanco (Leeton)

In the Benerembah community east of Griffith, nine FTE job losses were attributed to water recovery for the environment, but it was noted that impact was offset by the productivity benefits of on and off-farm infrastructure investment creating a 4-5% improvement in employment.

The Mirrool community north-east of Narrandera in the Murrumbidgee valley and within the Murrumbidgee Irrigation Ltd footprint, was the only NSW community where the net number of FTE jobs grew, from 8950 in 2001 to 9566 in 2016.

However, the Mirrool profile estimated that total employment may have been up to 0.5% higher if no water recovery under the Basin Plan, and a further 1% higher without pre-Plan recovery.

In the Yanco community, the number of FTE jobs fell by 438, from 4375 down to 3937, or 10%; 175 of the 438 jobs lost were attributed to water recovery for the environment.

The Yanco profile noted that the productivity benefits of on and off-farm infrastructure investment offset the effects of environmental water recovery, keeping overall job losses at ~10% . In other words, without government investment in on- and off-farm efficiency works, job losses in this community would have been even higher.

Victoria

Of a total 5628 net FTE job losses between 2011 and 2016, 1684 job losses (30%) were attributed to water recovery for the environment across 13 communities profiled in northern and north-west Victoria, including the Victorian Murray, Goulburn River, Campaspe River and Loddon River valleys. Job losses were particularly high around Swan Hill and in the dairy-dominant Kyabram-Tatura and Rochester communities west of Shepparton.

Table 3: FTE jobs lost to water recovery – Victoria

Community	Irrigation district	FTE jobs lost to water recovery	% job losses due to water recovery out of total job losses
Cobram	Goulburn Murray Irrigation District (GMID)	166	27.3%
Kerang-Cohuna	Goulburn Murray Irrigation District (GMID)	118	34.9%
Kyabram-Tatura	Goulburn Murray Irrigation District (GMID)	307	28.4%
Pyramid Hill-Boort	Goulburn Murray Irrigation District (GMID)	51	7.6%
Rochester	Goulburn Murray Irrigation District (GMID)	203	30.4%
SIA (Arcadia Downs, Wunghu, Tallygaroopna)	Goulburn Murray Irrigation District (GMID)	117	12.9%
Swan Hill	Goulburn Murray Irrigation District (GMID)	281	28.1%
Merbein	Sunraysia (Lower Murray Water)	150	100%
Mildura	Sunraysia (Lower Murray Water)	-	-
Red Cliffs	Sunraysia (Lower Murray Water)	190	31.6%
Robinvale	Sunraysia (Lower Murray Water)	-	-
Colignan (btw Robinvale and Mildura)	Sunraysia (Lower Murray Water)	101	31.7%
Cullulleraine		-	-
Total		1684	29.9%

The much higher number of job losses attributed to water recovery for the environment in the Victorian Murray-Darling Basin (1684) compared with the NSW Riverina and far western NSW Murray (648) in part likely reflects that milk produced in the NSW Murray valley is transported south for processing in Victorian factories in the Goulburn Murray Irrigation District. This means secondary processing and service job losses linked to water recovery in the NSW Murray may be apparent in Victoria where processing and many service industries are located.

The profiles for the following three communities warned that given the prevailing social and economic conditions at the time of the water recovery and the trends of social and economic change affecting the community, it was possible the modelling results might under-estimate the effect of the Basin Plan water recovery:

- Merbein (Sunraysia)
- Pyramid-Hill Boort (GMID)
- Rochester (GMID)

The Mildura community in the Sunraysia (Lower Murray Water) footprint was the only Victorian community where the overall number of FTE jobs grew, from 4590 in 2001 to 5692 (24%) in 2016. Mildura is a large regional centre with an airport, a vibrant tourism industry, and local food processing facilities. It provides health, education and other services for a large but isolated region.

However, its profile estimated that total employment might have been 5% to 7% higher had there been no Basin Plan water recovery in the Mildura community.

The Robinvale community to the east of Mildura experienced a 15% decline in FTE jobs, from 2595 in 2001 down to 2206 in 2016. No job losses were attributed to environmental water recovery, despite 44.7 gigalitres (44.2% of entitlement in the Robinvale community) being recovered.

Robinvale's profile says much of the loss in entitlements was offset by farmers relying on temporary water trade to replace the entitlements – that is, farmers buying water on the annual allocation market. It estimates that in the absence of this temporary water trade back into this community, Basin Plan water recovery would have led to a 35-40% decrease in FTE jobs.

Robinvale's production is largely fixed plantings, such as nuts, vineyards and citrus, where trees must be watered every year. A large reliance on the temporary market is high-risk for these producers during droughts, when the amount of water allocated for production across the southern Basin reduces substantially, and prices on the temporary water market soar.

Cullulleraine, an area to the west of Mildura, had no change in its 90 FTE jobs between 2001 and 2016, but its profile estimated that it would have gained another nine FTE jobs (10%), had it not experienced water recovery for the environment.

South Australia

Of a total 2053 net FTE job losses between 2001 to 2016, 929 job losses (45%) were attributed to water recovery for the environment across the 12 communities profiled in South Australia. Job losses were particularly high in the high-value horticultural irrigation areas in the Riverland.

Table 4: FTE jobs lost to water recovery – SA

Community	Irrigation area	FTE jobs lost to water recovery	% job losses due to water recovery out of total job losses
Berri	Riverland	243	27.6%
Loxton (Riverland)	Riverland	155	79.9%
Morgan (Riverland)	Riverland	9	8.4%
Renmark (Riverland)	Riverland	74	13.3%
Cobdogla-Barmera (Riverland)	Riverland	177	31.1%
Waikerie, west of Riverland	Mid-SA Murray	107	40.5%
Blanchetown (south of Riverland)	Mid-SA Murray	3	3.8%
Swan Reach (south of Riverland)	Mid-SA Murray	43	30.9%
Mannum	Lower-SA Murray	36	100%
Murray Bridge	Lower-SA Murray	-	-
Tailem Bend (south of Murray Bridge)	Lower-SA Murray	32	28.3%
Lower Lakes	Lower Lakes	50	17.7%
Total		929	45.25%

The profiles for the following five communities warned that given the prevailing social and economic conditions at the time of the water recovery and the trends of social and economic change affecting the community, it was possible the modelling results might under-estimate the effect of the Basin Plan water recovery:

- Berri (Riverland)
- Cobdogla-Barmera (Riverland)
- Loxton (Riverland)
- Mannum (lower SA Murray)
- Tailem Bend (lower SA Murray)

The Murray Bridge community in the lower SA Murray was the only South Australian Basin community where the overall number of FTE jobs grew, from 4500 in 2001 to 5670 (26%) in 2016. However, its profile estimated that total employment might have been 7% higher had there been no Basin Plan water recovery in the Murray Bridge community.

In the Renmark community in the Riverland, overall FTE jobs declined by 557 from 3710 in 2001 to 3153 in 2016 (15% drop). Seventy-four of those 557 jobs were attributed to water recovery for the environment, or 2% of the 3710 jobs in 2001.

However, the Renmark community profile said that in absence of Renmark trading entitlement back into its community from elsewhere in the southern Basin to replace entitlements it sold to the environment, total job losses related to water recovery for the environment out of Renmark would have been approximately 9%, not 2% - in other words, 334 jobs lost instead of 74.

In the Waikerie community west of the Riverland, overall FTE jobs declined by 264 from 1650 in 2001 to 1386 in 2016 (16% drop). Of the 264 lost jobs, 107 were attributed to water recovery for the environment, equating to 6.5% of the job losses between 2001 and 2016.

However, the Waikerie community profile said that in absence of Waikerie trading entitlement back from elsewhere in the southern Basin back to its community, total job losses related to water recovery for the environment out of Waikerie would have been approximately 15%, not 6.5%. – in other words, 247.5 jobs lost instead of 107.

BROADER CONTEXT

The above data illustrates negative impacts of water recovery for the environment on employment in Basin communities.

Whilst these findings are consistent with other Basin socio-economic impact assessments⁴, it is important to consider how these findings may contrast to some other studies. Specifically, there is a common (mis)perception that buybacks are voluntary transactions made by willing sellers. However, such perceptions do not factor in (i) the reasons why the entitlement holder may be selling, or (ii) the social/community impacts of multiple individual decisions.

For example, a survey of sellers to the 'Restoring the Balance' Program⁵ (the water buybacks program from 2008 to 2012 during the Basin Plan's development) found that "*almost 80% of irrigators surveyed said the decision to sell water had been positive for them*".

However, the survey, commissioned by the then federal Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) also found that "*most irrigators (60%) who sold water to the Commonwealth did so to generate cashflow*".

This includes around 30 per cent of the respondents using the cash they generated from their water sales to reduce debt (37 per cent in NSW), and 22 per cent to increase farm income and viability. Put simply, most irrigators sold water for short-term cash flow to ease financial distress from the Millennium Drought and the fallout of the 2008 Global Financial Crisis.

Very few irrigators participated in the buyback tenders due to positive reasons – i.e., only 7% sold entitlement to raise capital for on-farm investment, and only 10% sold what they considered to be entitlements surplus to their need.

The survey also focuses only on individual decisions, and does not account for the third-party and water market impacts of those many individual decisions collectively. This is acknowledged, "*at the same time, however, irrigators are concerned about the potential implications of water sales for their communities, and many do not agree with the principle of recovering water from irrigators to supplement environmental watering regimes*".

Thus the survey results at an individual scale must be considered in light of respondents also raising broader community concerns.

The same survey found that "*almost 50% of irrigators who sold part of their water entitlement and continued farming said selling water has had no consequences for farm production*". But this, and other positive experiences reported by some are likely skewed due to the timing of the data collection (early

⁴ https://www.mdba.gov.au/sites/default/files/pubs/seftons-report-september-2020_0.pdf

⁵ Cheesman M & Wheeler S 2012, *Survey of water sellers to the Restoring the Balance program*, report for Department of Sustainability, Environment, Water, Population and Communities

2012) coinciding with the return to wet conditions and full allocations after the 12-year Millennium drought finally broke. Water was plentiful and cheap to buy on the temporary annual allocation market to replace what they sold, and maintain production.

But 2012 was too early to test whether selling entitlement affected farm viability in the medium to long term as droughts returned, water became scarce, and its cost soared. The findings would be expected to be different if the participants were followed up and surveyed during the dry periods in 2014-16 and 2018-20, when water allocations were low and temporary water allocation prices high.

CONCLUSION

Overall, this analysis shows that water recovery is a significant contributor to declining employment in communities across the Murray-Darling Basin. This is consistent with the growing body of literature documenting these negative socio-economic impacts.⁶ The nature and extent of this impact must be understood by decision-makers.

The Murray Darling Basin Plan's positive and negative impacts are unevenly spread, so it is essential to be able to identify how different communities have been affected and to what extent.

Without this granular analysis, government programs to mitigate negative socio-economic impacts cannot be targeted properly, an issue raised in several Basin Plan reviews⁷.

Worse, the Federal Government may unwittingly recover more water out of communities already hit hardest by water recovery in the past.

It is troubling that the MDBA did not collate and analyse the community profiles, to demonstrate how the Basin Plan has affected different communities. This has left decision-makers in the dark on targeting support to the communities most in need.

Further, it poses the risk that the true extent of the impact of water recovery on communities may not be properly understood, or underestimated.



⁶ For example: 2020 'Sefton Report' https://www.mdba.gov.au/sites/default/files/pubs/seftons-report-september-2020_0.pdf; Frontier Economics "Social and economic impacts of the Basin Plan in Victoria" <https://www.frontier-economics.com.au/social-and-economic-impacts-of-the-basin-plan-in-victoria>

⁷ For example: 2020 'Sefton Report' https://www.mdba.gov.au/sites/default/files/pubs/seftons-report-september-2020_0.pdf; Productivity Commission Review of the Basin Plan 2018: <https://www.pc.gov.au/inquiries/completed/basin-plan/report/basin-plan.pdf>