

# Submission

## Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019

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*A ban on cotton exports is an ‘unpalatable measure’, but policy change is needed to make the industry transparent, accountable and reduce its impacts on communities and ecosystems elsewhere in the Murray Darling Basin.*

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March 2019

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# Summary

The Australia Institute welcomes the opportunity to make a submission on the Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019. We share the view expressed in the explanatory memoranda that an export ban is an “unpalatable measure”, but one that will generate important debate around the management of water in the Murray Darling Basin.

This debate is particularly relevant to the northern Basin where most of Australia’s cotton is grown. Focus on particular crops like cotton is generally unhelpful and distracts from the fundamental point that too much water is being extracted. However, with 80% of irrigation water used for cotton in the northern Basin, a policy discussion about water in the Northern Basin must be largely a discussion about cotton.

Water take has been increasing in the northern Basin and is far higher than the historic levels that are supposedly the baselines for the Basin Plan. This is the conclusion of the Murray Darling Basin Authority (MDBA), the Australian Academy of Science and the Commonwealth Environmental Water Office. The Barwon-Darling is particularly problematic, where changes to policy and modelling have created huge water ‘debts’ that rivers now ‘owe’ to irrigators. Unsustainable take in the northern Basin has contributed to severe impacts such as the Menindee fish kills and communities without drinking water.

Data from Cotton Australia and the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) shows that the 2018-19 cotton crop will be around the 30-year median, while parts of the Basin experienced the lowest rainfall on record. Developing policy in response to this situation is difficult due to the paucity of data on water in the Basin and the rhetoric of industry and political leaders.

For example, Deputy Prime Minister Michael McCormack has claimed that cotton production is down to 1% of a “good season”. Agriculture Minister David Littleproud has claimed “almost zero irrigation”. These claims are not consistent with ABARES or industry data.

Data is almost non-existent on the diversion of overland flows into private storage, known as floodplain harvesting. This practice is unregulated, unmeasured and estimated in the Basin Plan at just 210GL per year. The South Australian Royal Commission described floodplain harvesting as ‘grossly underestimated’.

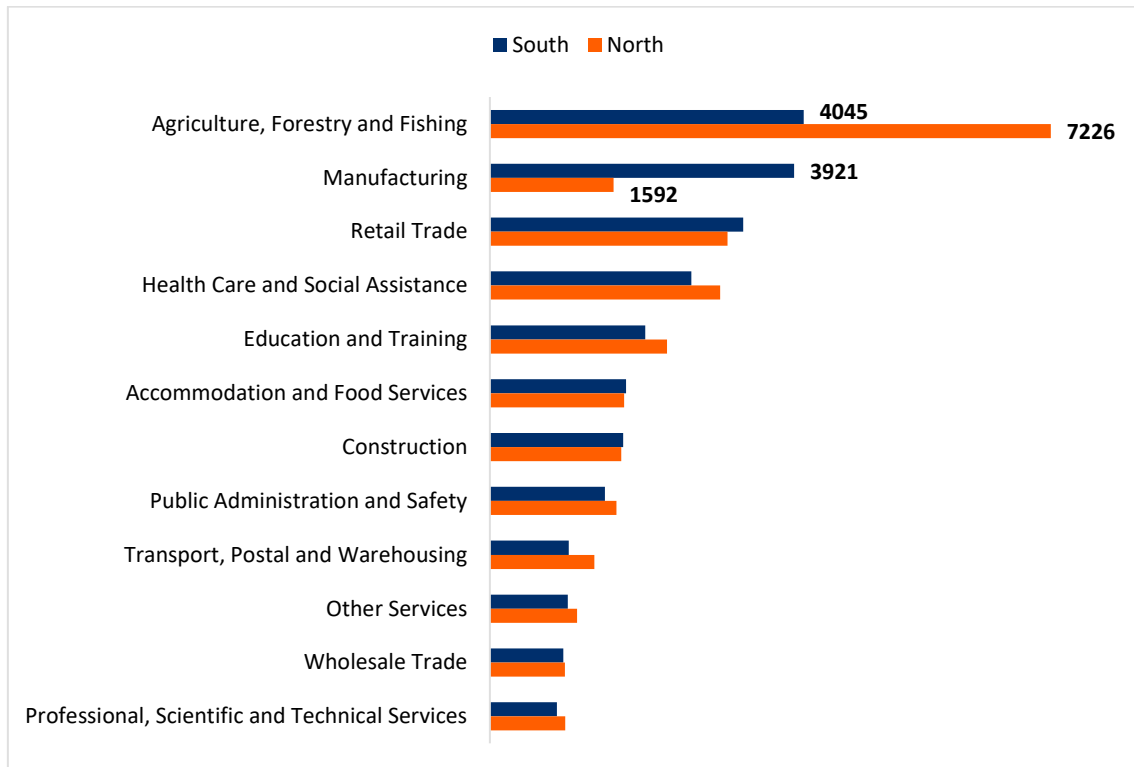
We estimate between 457GL and 993GL from floodplain harvesting have been applied to cotton crops in the NSW northern Basin alone this year. CSIRO estimates of evaporation loss from total available water for cotton irrigation range between 18% and 30%, meaning that between 82GL and 298GL evaporated from these storages this year. In total between 539GL and 1,292GL have been used for cotton growing in the NSW northern Basin this year. Is between one and three times the volume of Sydney Harbour.

Despite the paucity of data and historic underestimation on floodplain harvesting, both NSW and Queensland are developing policy that will entrench this practice in an unsustainable way. The MDBA has stated that water diversion limits will be increased under these processes. The SA Royal Commission suggests this would not be lawful, posing potential legal problems in the future.

Some of these problems are driven by the economics of cotton. Per megalitre of water the gross margins for cotton are more than double most alternative crops for the northern Basin. This has driven capital investment in cotton specific machinery and 'gins' for basic cotton processing. Australia's cotton industry is capital-intensive, employing relatively few people. Even in cotton growing areas cotton growing and ginning employment accounts for a modest share of agricultural employment. Narrabri, Balonne and Goondiwindi have 23%, 17% and 9% respectively of agricultural employment in cotton, making a still smaller share of overall employment. Australia-wide only 422 people work in cotton ginning.

Little value is added to cotton in Australia. After seeds and trash are removed in the gin, cotton is pressed, containerised and shipped overseas. By contrast, other agricultural products are extensively refined, processed and manufactured in Australia. Comparing the employment profiles of the northern and southern Basins demonstrates this clearly:

## Northern and southern Basin employment, selected LGAs



Source: ABS (2016) Census

This figure shows irrigation in the south involves more value adding, showing up in the far higher employment in manufacturing. The south supports a large wine industry, rice milling, meat and poultry processing, vegetable processing and a range of other food manufacturing.

Excessive water use in the north impacts on the southern Basin. NSW and Victoria have an obligation to deliver water to South Australia each year and with less water coming out of the northern Basin, this obligation has to be met by the southern Basin. This comes at a cost to water users in the southern Basin and the processing industries that depend on them.

A wider problem is that the economic development of the Basin is seen only through the lens of irrigation. The dominant narrative is that with more water regions will develop more, with less water less development. The above discussion shows that the reality is more complex – economies develop differently depending on what people do with resources including irrigation water. While the northern Basin pursues a single profitable crop that benefits its growers, the south has developed downstream industries and economies that are more diverse.

Simply allowing the market to allocate irrigation water has generated the cotton industry that we see today and to some degree the damage that has been done to the Lower Darling/Barka and Menindee Lakes. A similar process appears to be taking place in the southern Basin, where smaller farms, particularly in the dairy sector, are struggling for viability while major investments in nuts are expanding elsewhere. These changes have major social implications and are inadequately considered in the management of the Basin. Clearly, there is a role for government policy and community consultation regarding the allocation of natural resources in the Basin. We hope that this inquiry will contribute to this debate and policy development process.

For the cotton industry to constructively engage in this debate its leadership will need to change, and/or change practice. Industry leaders have been involved in fraud, threats and intimidation, poor practice and respond defensively to considered criticism.

Banning cotton exports from Australia would be a drastic measure and cause significant disruption to large parts of the irrigation industry in the Murray Darling Basin. However, changes to water policy are required to bring transparency to the irrigation industry and to better manage Australia's water resources.

# Introduction

The Australia Institute welcomes the opportunity to make a submission to the Standing Committee on Rural and Regional Affairs and Transport's inquiry into the Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019.

The South Australian Royal Commission highlighted widespread mismanagement of water in the Murray Darling Basin. The death of more than a million native fish at Menindee Lakes over the 2018-19 summer appalled the wider Australian public and has brought overdue attention to the management of the Basin, including water in the Northern Basin.<sup>1</sup>

We share the view expressed in the explanatory memoranda that the Bill is an "unpalatable measure", but one that will generate important debate around the management of water in the Murray Darling Basin.<sup>2</sup> We support the view of the South Australian Royal Commission that it is more important to focus on overall consumptive use of water rather than cotton, rice or any other crop:

Predictably, some generalized concerns have been expressed to the Commission to the effect that some crops are especially unsuitable to be irrigated in the Basin. It has to be said that cotton and rice have almost been demonized, by some, in this regard. The rhetoric of 'thirsty crops' (and 'greedy farmers') hovers in the background. This attitude should be rejected, as so far has been the case in the administration of the Basin water resources.<sup>3</sup>

If it is perceived that cotton and rice 'use too much water', the first thing is to check that the overall consumptive take — regardless of the crop or crops — is not excessive. If not, the market does, and probably should continue to, allocate the water to chosen crops.<sup>4</sup>

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<sup>1</sup> Cox (2019) *Darling river fish kill: cotton industry says it won't be 'the whipping boy' for disaster*, <https://www.theguardian.com/australia-news/2019/jan/10/darling-river-fish-kill-cotton-industry-says-it-wont-be-the-whipping-boy-for-disaster>

<sup>2</sup> Parliament of Commonwealth of Australia (2019) Export control amendment (banning cotton exports to ensure water security) bill: 2019 explanatory memorandum, [https://parlinfo.aph.gov.au/parlInfo/download/legislation/ems/s1182\\_ems\\_c6088a22-a97f-41ea-a1c0-29671222db1f/upload\\_pdf/19046em.pdf;fileType=application%2Fpdf](https://parlinfo.aph.gov.au/parlInfo/download/legislation/ems/s1182_ems_c6088a22-a97f-41ea-a1c0-29671222db1f/upload_pdf/19046em.pdf;fileType=application%2Fpdf)

<sup>3</sup> Walker (2019) *Murray Darling Basin Royal Commission Report*, <https://www.mdbrc.sa.gov.au/>

<sup>4</sup> *ibid*

While we agree with the Royal Commission, the fact is that 80% of irrigation in the Northern Basin is for cotton, so a policy discussion about water in the Northern Basin must be largely a discussion about cotton.<sup>5</sup>

Irrigation in the Northern Basin (and therefore current cotton production) has grown under the Basin Plan and is not sustainable. We see this parliamentary inquiry as an opportunity to contribute to the public conversation about policies that are exacerbating this situation.

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<sup>5</sup> Murray (2018) *Murray Darling Basin Royal Commission submission*, <https://mdbcrcsa.govcms.gov.au/sites/g/files/net3846/f/mdbrc-submission-michael-murray-cotton-australia-nsw.pdf?v=1526862945>



# Increasing water take

There is growing evidence that extractions for irrigation have grown in the Northern Basin. The Murray Darling Basin Authority (MDBA) undertook a hydrologic assessment of flow changes in the Northern Basin that attributed the decreased low and medium flows to increased extractions, as well as climate change, finding:

The flow reduction in recent years along Barwon River is also due to other factors besides climate change and variability, such as increased river regulation and irrigation development.<sup>6</sup>

MDBA's findings were mirrored by a second inquiry into the fish kills at Menindee Lakes by the Australian Academy of Science. That report also attributed the decrease in flows to increased diversions:

The conditions leading to this event [Menindee fish kills] are an interaction between a severe (but not unprecedented) drought and, more significantly, excess upstream diversion of water for irrigation.<sup>7</sup>

A study commissioned by the Commonwealth Environmental Water Office said in relation to the Barwon-Darling:

It was well recognised that development had continued beyond the 1993/94 levels, and that long-term diversions were likely to be in excess of the 1993/94 Cap on diversions.<sup>8</sup>

A recent report by The Australia Institute, *Owing down the river*, outlines in detail how changes to administrative models have increased Cap credits in the Barwon Darling to unsustainable levels. Figure 1 below is reproduced from that report and shows the impact of the change in hydrological model:

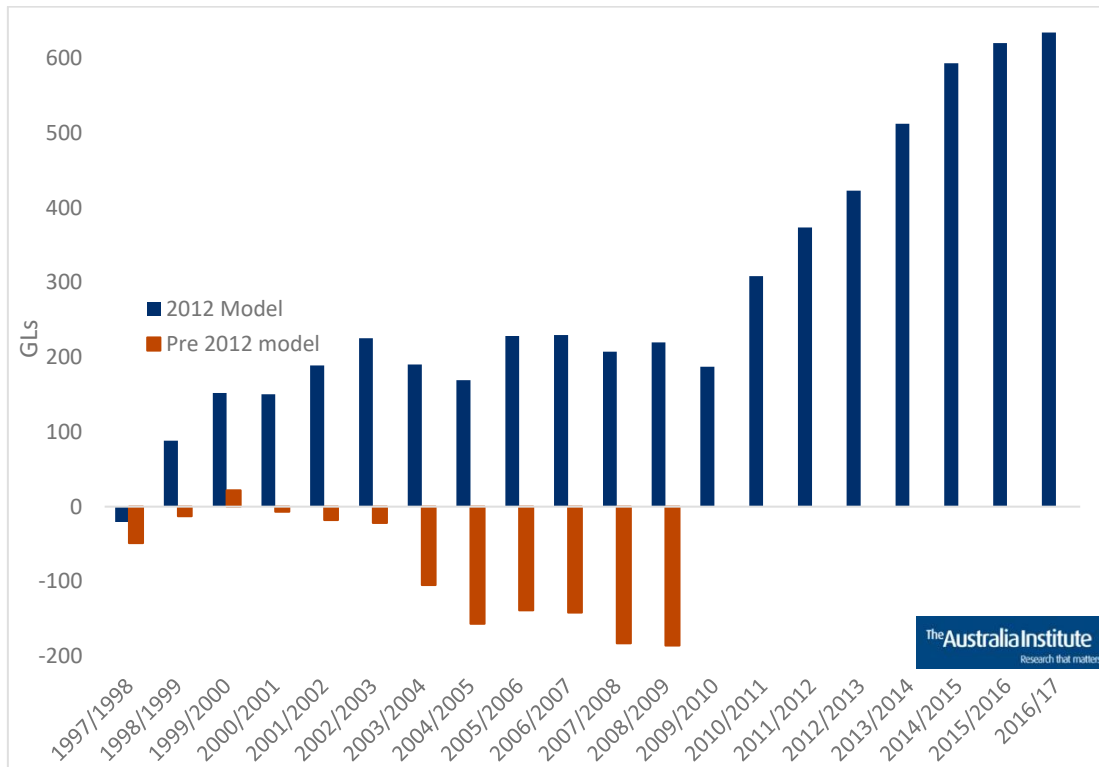
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<sup>6</sup> MDBA (2018) Hydrologic assessment of flow changes in the Northern Basin, <https://www.mdba.gov.au/publications/mdba-reports/hydrologic-assessment-flow-changes-northernbasin>

<sup>7</sup> Australian Academy of Science (2019) Investigation of the causes of mass fish kills in the Menindee Region NSW over the summer of 2018–2019, <https://www.science.org.au/supporting-science/sciencepolicy-and-sector-analysis/reports-and-publications/fish-kills-report>

<sup>8</sup> Simpson (2017) *Barwon-Darling: low flow environmental watering impediments and opportunities: Report for Commonwealth Environmental Water Office*, <https://www.science.org.au/supporting-science/sciencepolicy-and-sector-analysis/reports-and-publications/fish-kills-report>

**Figure 1: Accumulated Cap Credits for the Barwon-Darling/Barka and Lower Darling**



Source: MDBA (2018) Transition Period Water Take Report 2016–17 Report on Cap compliance and transitional SDL accounting June 2018

The orange columns in Figure 1 show the cumulative Cap debits under the earlier model. The blue bars are the cumulative Cap credits according to the model that “created a more favourable Cap compliance outcome”.<sup>9</sup> The change in model has led to the Barwon Darling/Barka river to be ‘in debt’ to irrigators and leads to unsustainable levels of take. This is discussed in detail in *Owing down the river*, which we have attached to this submission.


Despite various studies finding that water use is excessive and increasing, debate, research and policy development is hindered by a lack of crucial data and confusing rhetoric around cotton production.

<sup>9</sup> MDBA (2014) *Minute to Chief Executive – Response to NSW: Accreditation of the Barwon-Darling Cap model*, obtained by FOI

# Data and rhetoric

Government and industry sources estimate similar amounts of cotton will be grown in the 2018-19 year. The Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) latest outlook is similar for this year and each year out to 2023-24:

**Figure 2: ABARES March 2019 outlook for natural fibres**



Australian Government  
Department of Agriculture and Water Resources  
ABARES

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Outlook for natural fibres

Category	unit	2016-17	2017-18 s	2018-19 f	2019-20 f	2020-21 z	2021-22 z	2022-23 z	2023-24 z
<b>Cotton</b>									
<b>World a</b>									
Production	Mt	23.2	26.9	26.1	26.3	26.1	26.6	27.9	29.1
Consumption	Mt	25.2	26.5	27.6	28.3	29.0	29.6	30.4	31.4
Exports	Mt	8.3	8.9	9.0	8.8	8.7	8.7	9.2	9.7
Closing stocks	Mt	18.4	19.2	18.2	18.0	17.7	16.9	16.1	15.6
Cotlook 'A' index	USc/lb	82.8	88.0	88.2	77.4	79.4	83.3	92.1	92.1
<b>Australia b</b>									
Area harvested	'000 ha	557	500	280	280	280	280	280	280
Lint production	kt	891	1,000	581	560	560	560	560	560
Exports	kt	763	872	859	557	543	543	543	543
value	A\$m	1,788	2,132	2,262	1,359	1,339	1,381	1,467	1,473
Gin-gate returns c	A\$/bale	492	639	649	611	624	641	709	716

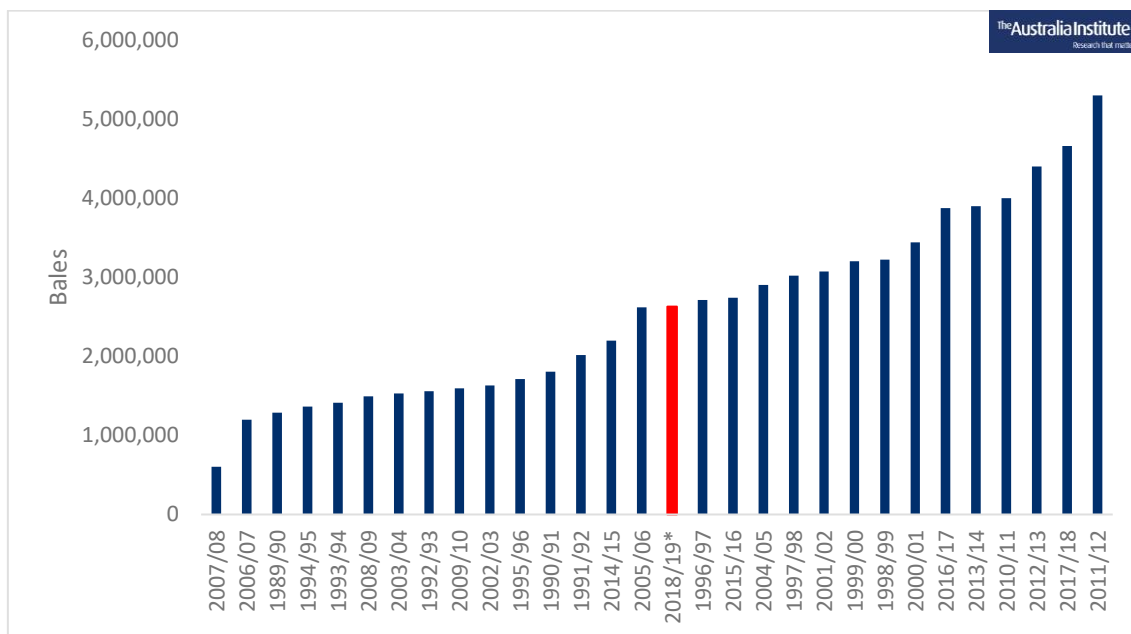
Source: ABARES (2019) Agricultural commodities: March quarter 2019.

One bale of cotton in Australia weighs 227kg, making ABARES 560 kilotonne estimate equal to 2.47 million bales. This is broadly consistent with Cotton Australia's December 2018 estimate of 2.63 million bales.<sup>10</sup> This December estimate was an upgrade on Cotton Australia's October estimate of 2.24 million bales.<sup>11</sup> If the December estimate is achieved will make this year's cotton crop the median (middle ranking) year of cotton production over the last 30 years, as shown in Figure 3 below:

<sup>10</sup> Cotton Australia (2018) *Statistics*, <https://cottonaustralia.com.au/cotton-library/statistics>

<sup>11</sup>Lyon (2018) *Water shortage cuts cotton potential in half as sowing gains momentum*. <https://www.graincentral.com/cropping/cotton/water-shortage-cuts-cotton-potential-in-half-as-sowing-gains-momentum/>

**Figure 3: Australian cotton production 1988-89 to 2018-19**



Source: Cotton Australia (2019) *Statistics*, <https://cottonaustralia.com.au/cotton-library/statistics>

While cotton production has been right on median level in 2018/19, rainfall for the year has been low, as shown in Table 1 below:

**Table 1: Rainfall Decile for Murray-Darling Basin**

Rainfall decile group	Percentage of area
Highest on record since 1900	0%
Very much above average	0%
Above average	2%
Average	49%
Below average	18%
Very much below average	25%
Lowest on record since 1900	6%

Source: Bureau of Meteorology (2019) *Monthly Water Update, Murray-Darling Basin: February 2019 Summary*, <http://www.bom.gov.au/water/monthly-water-update/current/murray-darling-basin/>

Table 1 shows the rainfall decile for the Murray Darling Basin, with 49% of the Basin experiencing less than average rainfall; one quarter of the Basin experiencing very much below average; 6% experiencing the lowest rainfall on record; and only 2% of the Basin experiencing above average rainfall.

A complicating factor is that not all of Australia’s cotton is grown in the Murray Darling Basin. Cotton Australia’s October estimate includes production estimates for each valley, reproduced in Figure 4 below:

**Figure 4: 2018/19 Australian Cotton Production Forecast**

2018-2019 AUSTRALIAN COTTON PRODUCTION FORECAST														
Estimate as at October 2018														
COTTON AUSTRALIA	Irrigated			Dryland				Total					Last season Irrigated Ha	% of Last Season
	Area	Yield	Prod'	Area	Area*	Yield	Prod'	Area	Production Bales	Production Seed				
	Green	b.p.h.	Bales	Paddock	Green	b.p.h.	Bales	Green	Number	\$,000	Tonne	\$,000		
QUEENSLAND	Hectares			Hectares	Hectares			Hectares						
Central Highlands	13,000	10.50	136,500	4,000	2,000	3.00	12,000	15,000	149,500	92,070	38,610	12,741	16600	78
Dawson Valley	4,500	10.50	47,250	500	250	3.00	1,500	4,750	48,750	30,225	12,675	4,183	4700	96
Darling Downs	12,000	10.50	126,000	15,000	10,000	4.50	67,500	22,000	193,500	119,970	50,310	16,602	30000	40
Dirranbandi	300	11.50	3,450	-	-	-	-	300	3,450	2,139	897	296	3000	10
St. George	9,000	11.00	99,000	-	-	-	-	9,000	99,000	61,380	25,740	8,494	12400	73
Macintyre Valley	20,000	11.00	220,000	7,000	3,500	3.00	21,000	23,500	241,000	149,420	62,660	20,678	45700	44
QLD Total	58,800	10.75	632,200	26,500	15,750	3.85	102,000	74,550	734,200	455,204	190,892	62,994	112400	52
NEW SOUTH WALES														
Mungindi	5,500	11.00	60,500	3,000	1,000	2.50	7,500	6,500	68,000	42,160	17,680	5,834	9600	57
Gwydir	15,000	11.50	172,500	15,000	7,500	3.20	48,000	22,500	220,500	136,710	57,330	18,919	48300	31
Walgett	2,000	11.00	22,000	6,000	2,000	2.50	15,000	4,000	37,000	22,940	9,620	3,175	11700	17
Bourke	500	11.00	5,500	-	-	-	-	500	5,500	3,410	1,430	472	4000	13
Lower Namoi	16,000	11.00	176,000	12,000	6,000	3.25	39,000	22,000	215,000	133,300	55,900	18,447	35000	46
Upper Namoi	13,000	10.50	136,500	12,000	8,000	4.00	48,000	21,000	184,500	114,390	47,970	15,830	18100	72
Macquarie	15,000	11.50	172,500	1,000	300	2.50	2,500	15,300	175,000	108,500	45,500	15,015	36200	41
Lachlan	12,000	11.00	132,000	-	-	-	-	12,000	132,000	81,840	34,320	11,326	18300	66
Murray/Murrumbidgee	45,000	10.50	472,500	-	-	-	-	45,000	472,500	292,950	122,850	40,541	78000	58
NSW Total	124,000	10.89	1,350,000	49,000	24,800	3.27	160,000	148,800	1,510,000	936,200	392,600	129,558	250200	48
<b>AUSTRALIAN TOT.</b>	<b>182,800</b>	<b>10.84</b>	<b>1,982,200</b>	<b>75,500</b>	<b>40,550</b>	<b>3.47</b>	<b>262,000</b>	<b>223,350</b>	<b>3,344,200</b>	<b>1,391,404</b>	<b>583,492</b>	<b>192,552</b>	<b>371,600</b>	<b>49</b>
Average Price Per Bale of Cotton Lint: \$ 620														
Average Price Per Tonne of White Cottonseed: \$ 330														
Total Forecast Value of Australian Cotton Crop \$ 1,583,956,360														
Indicates Green Hectares (ie 100Ha double skip = 50Ha Green)														
Dark Green number in red is the forecast number of 227kg bales to be produced														
Dark Green number is green hectares														

Source: <https://www.graincentral.com/cropping/cotton/water-shortage-cuts-cotton-potential-in-half-as-sowing-gains-momentum/>

Figure 4 includes statistics for Queensland’s Central Highlands and Dawson Valley regions that are not in the Murray Darling Basin. These non-Basin regions account for around 9% of cotton production.

Another point to note is that cotton is grown in both the northern and southern Murray Darling Basin. In Figure 3, 27% of production comes from the Lachlan and Murray/Murrumbidgee areas, a portion likely inflated by drought conditions across the north, although the amount of cotton in the southern Basin has increased in recent years. Our report *Owing down the river*, attached to this submission, covers this in more detail.

Regardless of changes to forecasts and areas, one point is clear – despite widespread drought, substantial amounts of cotton are currently being grown. While production

statistics are reasonably consistent, there is confusion as to whether this is a large or small amount of cotton. The irrigation industry and politicians are contributing to the confusion with inconsistent statements. For example the General Manager of Cotton Australia, Michael Murray, said on 10 January 2019:

New South Wales is in the grips of a long and devastating drought. This drought is impacting all agricultural sectors, including the cotton industry where this season's crop is forecast to be at least half of last season's.<sup>12</sup>

Figure 3 above shows that comparisons to last year's crop are misleading as it was the second highest crop on record.

On 7 February, Deputy Prime Minister Michael McCormack commented:

...and they're growing 1% of cotton across the basin that they could in a generally good season.<sup>13</sup>

Mr McCormack's claim is not consistent with industry or government data. Agriculture Minister David Littleproud said in response to a report into the fish deaths at Menindee Lakes by the Australian panel of Scientists:

Further, blaming upstream irrigation for fish deaths in a year when there was almost zero irrigation taken from the system upstream of Menindee makes no sense. ....Saying that stopping farmers from taking water – which they're not actually taking – would have stopped the fish death makes no sense. Blaming irrigators in a year in which they took very little water from the system above Menindee pushes a myth. That's not science.<sup>14</sup>

Minister Littleproud does not define what he means by 'the system' or 'taking water', but his comments give the impression that very little water is being used in the northern Basin. As the industry and government statistics above demonstrate, this is not the case.

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<sup>12</sup> Murray (2019) *Cotton Australia Statement of Fish Deaths at Menindee*, <https://cottonaustralia.com.au/news/article/cotton-australia-statement-on-fish-deaths-at-menindee>

<sup>13</sup> Remeikis (2019) *Michael McCormick makes first visit to Menindee since fish kill: 'We're all experts in hindsight'*, <https://www.theguardian.com/australia-news/2019/feb/07/michael-mccormack-makes-first-visit-to-menindee-since-fish-kill-were-all-experts-in-hindsight>

<sup>14</sup> Littleproud (2019) *Media Release: Response to Labor's fish death report*, <https://inbox.news/newsroom/press-releases/4963/response-to-labors-fish-death-report>

## WHERE DOES THE WATER COME FROM?

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While there is increasing take of water in the northern Basin, including substantial cropping in dry years such as this one, it is unclear where this water comes from. The possible sources are:

- water allocated this year,
- water carried over from previous years,
- groundwater, or
- water captured from floodplain harvesting (FPH) and stored in private storages.

It is unclear how much water is being water used overall in the northern Basin, and how much comes from each source. This point needs to be emphasised – despite the importance of the Murray Darling Basin and the \$13 billion allocated to implementing the Basin Plan, there is no data on how much water is being used in the northern Basin, particularly around how much is diverted through floodplain harvesting (FPH) and held in private storages.

Under the Basin Plan, all forms of water take, including FPH, are to be regulated and limited to an historic level of take. The Basin Plan estimates the total take from floodplain harvesting as 210GL:

At the time the Basin Plan was made, the amount of floodplain harvesting in the Basin was estimated to be around 210 GL per year, although there was high uncertainty about the accuracy of this estimate.<sup>15</sup>

Floodplain harvesting has to date been unregulated and unmeasured. The SA Royal Commission said:

Evidence was also provided to the Commissioner indicating that the New South Wales Government has acknowledged that floodplain diversions have been ‘grossly underestimated’.<sup>16</sup>

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<sup>15</sup> MDBA (2017) The Murray–Darling Basin Water Compliance Review—Part A, <https://www.mdba.gov.au/sites/default/files/pubs/MDB-Compliance-Review-Final-Report.pdf>, p42.

<sup>16</sup> Walker (2019) Murray-Darling Basin Royal Commission Report, <https://www.mdbrc.sa.gov.au/sites/default/files/murray-darling-basin-royal-commissionreport.pdf?v=1548898371>

Some estimates of the potential FPH take are as high as 3,000GL diverted in each major overland flow event.<sup>17</sup> This estimate was not contested by the NSW Irrigators Council in their recent response to media claims regarding floodplain harvesting.<sup>18</sup>

An estimate of how much water has come from FPH can be made from Cotton Australia's production data and recent statements from irrigator groups. For the 2018/19 year there has been very little water available in carryover or this year's allocation. Cotton Australia's Michael Murray explains that the 2018/19 crop:

Was grown on reserves carried over from the 2016 floods, ground water or rainfall.<sup>19</sup>

The low rainfall in the northern Basin this year cannot have made any substantial contribution to the cotton production, leaving carryover, groundwater and FPH as the main sources of water. NSW Irrigators Council report that the total water sources (other than FPH) in the Northern Basin this year is only 400,000 ML (400 GL):

Calculations from the NSW Water register for Barwon, Gwydir, Border Rivers, Lower Namoi and Macquarie highlight that 151,000ML of water has been delivered from storages and 249,000 ML pumped from groundwater for use by irrigators this season on a range of crops including, citrus, pecans, lucerne, wheat, hemp and cotton.<sup>20</sup>

From this estimate and Cotton Australia's October and December production estimates, discussed above, an estimate can be made of water sourced from floodplain harvesting in the NSW northern Basin, shown in Table 2 below:

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<sup>17</sup> Pedersen (2019) *Taking water from the top means less at the bottom, say irrigators*, <https://www.theland.com.au/story/5972482/the-floodplain-dilemma/>

<sup>18</sup> NSW Irrigators Council (2019) *Responses to recent media claims regarding Floodplain Harvesting and the Healthy Floodplains Project*, obtained by The Australia Institute, available on request.

<sup>19</sup> Hunt (2019) *Cotton growers defend growing 1.2m bales in midst of drought*, <https://www.irrigationaustralia.com.au/news/cotton-growers-defend-growing-12m-bales-in-midst-of-drought>

<sup>20</sup> NSW Irrigators Council (2019) *Responses to recent media claims regarding Floodplain Harvesting and the Healthy Floodplains Project*, obtained by The Australia Institute, available on request.



**Table 2: Floodplain harvesting water use, NSW northern Basin, 2018-19**

Northern Basin	Unit	Low	High
Irrigated hectares of cotton	Hectares	108,300	125,470
Water applied/ha	ML/ha	7.8	10.5
Water applied	ML	844,740	1,317,436
Groundwater and public storages	ML	400,000	400,000
Used for cotton	%	97%	81%
Used for cotton	ML	388,000	324,000
Floodplain harvesting estimate	ML	456,740	993,436

Sources: Cotton Australia statistics, Brown (2019)<sup>21</sup>, NSW Irrigators Council, MDBA (2016)<sup>22</sup>

Table 2 estimates that between 457GL and 993GL have been applied to cotton crops in the NSW northern Basin this year. This does not include cotton production in the southern Basin or in Queensland. This estimate derives from:

- Cotton Australia estimate of 108,300 irrigated hectares in the northern Basin. October estimate and increased by 15% in line with December upgrade.
- Water application estimate from Cotton Australia<sup>23</sup> and report in *The Land*.<sup>23</sup> Given minimal rainfall, the higher figure is more likely. CSIRO reports application rates of up to 13.5 ML/ha.<sup>24</sup>
- NSW Irrigators Council statement above estimating groundwater and delivery from storages this year.
- MDBA's Northern Basin Review estimates of water applied to cotton in NSW northern Basin valleys, ranging from 81% in the Macquarie to 97% in the Gwydir.

This estimate does not include evaporation. There are few estimates of how much water is lost to evaporation from private storages. In 2007 this figure was estimated at

<sup>21</sup> Brown (6 Mar 2019) *Who should get a drink when it's dry?*,

<https://www.theland.com.au/story/5936957/unfair-rap-for-flexible-cotton/>

<sup>22</sup> MDBA (2016) Northern Basin Review: Technical overview of the social and economic analysis,

<https://www.mdba.gov.au/sites/default/files/pubs/NB-social-economic-technical-overview%20final-Dec16.pdf>, Table 2.

<sup>23</sup> Cotton Australia (2018) *Water efficiency in the cotton industry*, <https://cottonaustralia.com.au/cotton-library/fact-sheets/cotton-fact-file-water>

<sup>24</sup> CSIRO (2013) *Water-use efficiency and productivity trends in Australian irrigated cotton: a review*, <https://www.publish.csiro.au/cp/cp13315>

1,300 GL per year across the northern Basin, excluding Menindee.<sup>25</sup> Since 2007 many new private storages have been built, although data is not publicly available and possibly not collected by government agencies, nor is it made public by owners.

This estimate is in line with CSIRO estimates of storage dam evaporation loss, of between 18% and 30% of total available water.<sup>26</sup> Based on these estimates, between 82,000ML and 298,000ML would be lost to evaporation from floodplain harvesting dams in the NSW northern Basin in 2018-19, bringing total water use including evaporation to between 538,000ML and 1,291ML, as shown in Table 3 below:

**Table 3: Evaporation from floodplain harvesting storages, NSW nth Basin 2018-19**

Northern Basin	Unit	Low	High
<b>Floodplain harvesting estimate</b>	ML	456,740	993,436
<b>Evaporation loss</b>	%	18%	30%
<b>Evaporation loss</b>	ML	82,213	298,031
<b>Total water use including evaporation</b>	ML	538,953	1,291,467

Sources: As for Table 2 and CSIRO (2013)

The Basin Plan, assumes this figure is just 210GL across the entire Basin, less than half the low estimate in Table 3 and one sixth of the high estimate. While these estimates are basic and have a broad range, they show the magnitude of water diverted from floodplains for cotton production in the NSW northern Basin alone. Despite no rain in most of the Basin, ecological disaster in the Darling/Barka and towns with no drinking water, between one and three Sydney Harbour’s worth of water has been used for cotton in the NSW northern Basin. (Sydney Harbour contains around 500GL)<sup>27</sup>.

<sup>25</sup> Webb, McKeown & Associates Pty Ltd for the Murray-Darling Basin Commission (2007) *State of the Darling: Interim Hydrology Report*, [https://www.mdba.gov.au/sites/default/files/archived/mdbc-SW-reports/17\\_State\\_of\\_the\\_Darling\\_Interim\\_Hydrology\\_Report\\_2007.pdf](https://www.mdba.gov.au/sites/default/files/archived/mdbc-SW-reports/17_State_of_the_Darling_Interim_Hydrology_Report_2007.pdf)

<sup>26</sup> CSIRO (2013) Water-use efficiency and productivity trends in Australian irrigated cotton: a review, <https://www.publish.csiro.au/cp/cp13315>

<sup>27</sup> Sydney Harbour contains around 500GL – Donegan (2014) 11 things you should know about Sydney Harbour, <https://www.abc.net.au/news/2014-09-04/11-things-you-should-know-about-sydney-harbour/5714612>

## CURRENT DEVELOPMENTS ON FLOODPLAIN HARVESTING

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NSW and Queensland are in the process of issuing FPH licences to limit floodplain harvesting take, regulate and measure it. The floodplain licence amount will exceed the 210GL estimated in the Basin Plan. As these policies are being developed primarily for the cotton industry, consideration of them is relevant to this inquiry.

MDBA have stated that the SDLs will increase by the new FPH licence levels:

It has been very difficult to accurately measure how much floodplain water has been used or 'harvested', meaning this water use is not accounted for in the rigorous way other water use is accounted for.

If floodplain harvesting is regulated and measured, sustainable diversion limits in NSW will change.

Once overland flows are fully measured and licensed, water limits in Queensland will be revised to capture the best information.

New information on overland flow use will need to be included in updated estimates of baseline diversion limits, which are outlined in water resource plans. This means water resource plans will change over time, as the representation of overland flow water use improves.<sup>28</sup>

However, the SA Royal Commission was critical of this approach and suggested that it will not be lawful:

Ultimately, the MDBA's proposal to increase SDLs by reference to increases to BDLs is unjustifiable. The Water Act intrinsically links SDLs to the ESLTs for each water resource area (SDLs must reflect an ESLT). The Water Act does not mention BDLs at all. Given the lack of information and informed modelling about the water requirements for floodplains, the MDBA cannot determine a change to SDLs. Any proposal to do so necessarily assumes that the ESLT can be determined (to increase) by reference to changes in consumptive use. That is plainly wrong. The ESLT must be established independently from consumptive use, not because of it. Should no re-examination of the ESLT occur then, firstly, there can be no basis upon which SDLs could be adjusted, but secondly, the only logical result would be to decrease SDLs as extractive entitlements will need

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<sup>28</sup> MDBA (2019) *Floodplain harvesting and overland flows*, <https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/floodplain-harvesting-overland-flows>

to be further reduced to meet the ESLT. This may have significant and unwarranted implications for communities. The point is (in theory) that a change to the BDL does not necessarily result in a change to the ESLT or SDL, either by way of increase or decrease, but the only way this can be determined is if further research is undertaken to properly understand the watering requirements for floodplains having regard to the amount of water that is now understood to have been diverted from them.<sup>29</sup>

In NSW the Water Management Act limits FPH to the 1993/94 level of development. The Basin Plan, limits FPH to the 1999/2000 level of development. MDBA maintain that the FPH amount is not an increase in take, because the take was accounted for as an 'unaccounted loss' in the water balance. However, no government has provided any evidence that take will be capped at the historic level of take (1993/94 in NSW and 1999/2000 in Queensland). The NSW government acknowledges that:

In some areas of the northern basin, there has been a significant growth in floodplain harvesting infrastructure, causing floodplain harvesting diversions to increase above plan limits. The NSW Floodplain Harvesting Policy, when implemented, will function to restrict floodplain harvesting activities so that diversions return back to the plan limits<sup>30</sup>

Parts of the irrigation industry do not agree with the NSW government claim that the FPH amount will return take to legal limits, as NSWIC said in their submission to the draft Floodplain Harvesting Monitoring and Auditing Strategy:

The second most important aspect is clearly communicating that this process will ensure that the **volumetric conversion of current and historic practice will not and cannot lead to any more or any less, take of water.**<sup>31</sup>

NSW recently sought submissions on a draft Floodplain Harvesting Monitoring and Auditing Strategy. That draft strategy did not include any mechanism or strategy to address future breaches of SDL by FPH. It also offered a primitive monitoring strategy that relied on irrigators self-reporting take via a manual reading of gauge boards. For

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<sup>29</sup> Walker (2019) *Murray-Darling Basin Royal Commission Report*, <https://www.mdbrc.sa.gov.au/sites/default/files/murray-darling-basin-royal-commissionreport.pdf?v=1548898371>

<sup>30</sup> NSW Department of Industry (2018) *Draft Floodplain harvesting monitoring and auditing strategy*, <https://www.industry.nsw.gov.au/water/plans-programs/healthy-floodplains-project/monitoring-andauditing-strategy>

<sup>31</sup> NSW Irrigators Council (2019) *Submission: Draft Floodplain Harvesting Monitoring and Auditing Strategy*, [http://www.nswic.org.au/wordpress/wp-content/uploads/2019/02/2018-11-29-NSWIC-Submission-FPH-Monitoring-and-Auditing\\_final.pdf](http://www.nswic.org.au/wordpress/wp-content/uploads/2019/02/2018-11-29-NSWIC-Submission-FPH-Monitoring-and-Auditing_final.pdf). Bold in original.

these reasons alone, it is difficult to have any confidence that governments are serious about effective regulation of FPH. A Joint submission to the NSW Government by The Australia Institute, Southern Riverina Irrigators, Darling River Action Group and Tolarno Station on the *Draft Floodplain Harvesting monitoring and auditing strategy* is attached to this submission.<sup>32</sup>

The growth in floodplain harvesting has been facilitated by the growth in on-farm storages.<sup>33</sup> The Commonwealth has funded growth in on-farm storages through the Commonwealth Sustainable Rural Water Use and Infrastructure Program (SRWUIP). The program's investment in on-farm storages is to improve the efficiency of water use by reducing evaporation through reducing the surface area of on-farm storages and make them deeper. However, there are examples of large new storages that have been built in at least the Murrumbidgee, Lachlan and Barwon-Darling valleys.<sup>34</sup> Prior to 2018, there was little to no verification of works undertaken under the efficiency program to verify either the evaporation savings or whether dam surface areas have actually reduced (and therefore maintained the original dam volume).<sup>35</sup>

The growth in storage has changed the hydrology in the Murrumbidgee. New storages on cotton farms between Griffith and Balranald have been built specifically to capture water that previously was unable to be regulated by river operators and historically has flowed into the Murray (supplementary water).<sup>36</sup> The capture of supplementary flows reduced flows will reduce flows that used to benefit the environment and also reduces water security for Murray water holders, particularly in NSW.<sup>37</sup>

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<sup>32</sup> Slattery and Campbell (2019) *Joint submission on Floodplain Harvesting monitoring and auditing strategy*, <http://www.tai.org.au/content/joint-submission-draft-floodplain-harvesting-monitoring-and-auditing-strategy>

<sup>33</sup> NSW Department of Industry (2018) *Floodplain harvesting monitoring and auditing: fact sheet*, [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/204870/floodplain-harvesting-monitoring-and-auditing-fact-sheet.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0003/204870/floodplain-harvesting-monitoring-and-auditing-fact-sheet.pdf)

<sup>34</sup> SMK Consultants, (2017), Environmental Impact Statement: Construction and operation of two irrigation storages on 'Bringagee', <http://www.carrathool.nsw.gov.au/sites/carrathool/files/public/images/documents/carrathool/Planning/Public%20Exhibition/DA2018-010%20Ad%20Bringagee%20EIS.pdf>

<sup>35</sup> Slattery (2018) *Murray-Darling Basin Royal Commission: Submission*, <http://www.tai.org.au/sites/default/files/The%20Australia%20Institute%20submission%20to%20the%20Murray-Darling%20Basin%20Royal%20Commission.pdf>

<sup>36</sup> SMK Consultants, (2017), Environmental Impact Statement: Construction and operation of two irrigation storages on 'Bringagee', <http://www.carrathool.nsw.gov.au/sites/carrathool/files/public/images/documents/carrathool/Planning/Public%20Exhibition/DA2018-010%20Ad%20Bringagee%20EIS.pdf>

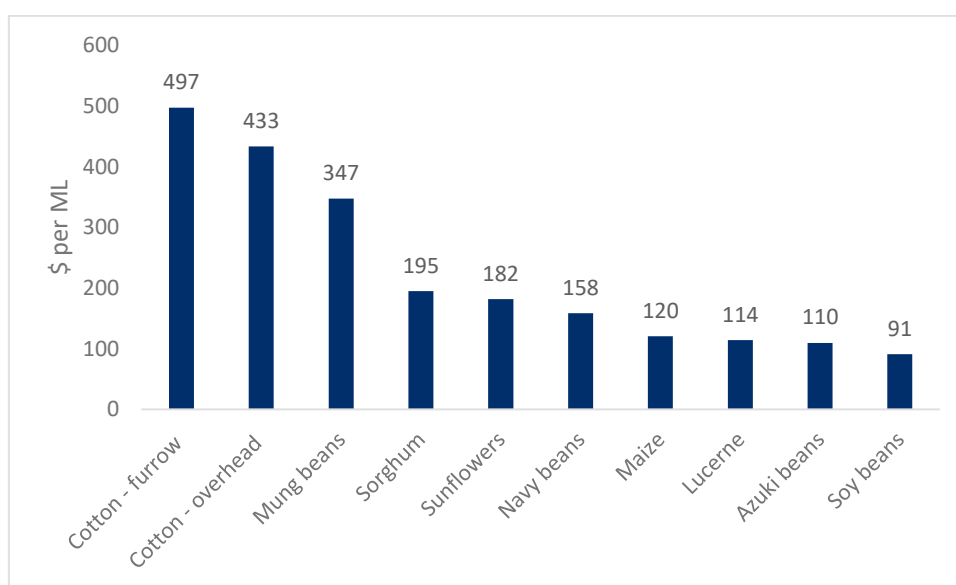
<sup>37</sup> MDBA (2019) *Losses in the River Murray System 2018–19*, <https://www.mdba.gov.au/sites/default/files/pubs/River-murray-system-losses-report.pdf>

# Economics of cotton

## RETURNS TO WATER

Discussion of floodplain harvesting is important to the consideration of this Bill because the vast bulk of diverted floodwater is used to grow cotton. Cotton is the preferred crop because it has higher returns per megalitre of water than any other crop, as shown in Figure 5 below:

**Figure 5: Gross margins for northern NSW irrigated crops**



Sources: Cotton Info (2018) *Australian cotton industry gross margin budgets*, <https://www.cottoninfo.com.au/publications/australian-cotton-industry-gross-margin-budgets>; NSW Department of Primary Industries (2013) *Irrigated northern summer crop gross margins*, <https://www.dpi.nsw.gov.au/agriculture/budgets/summer-crops>.

Figure 5 shows that gross margins per megalitre for cotton are over double that of most alternate crops. It is important to note that the two sources for Figure 5 are not for the same year – more up to date data for gross margins has not been published by NSW DPI. Also, gross margin analysis is simplistic and is not a measure of farm profit. It does not include important financial considerations such as capital or financing costs. Despite these limitations, Figure 5 shows the clear financial incentive irrigators face to grow cotton.

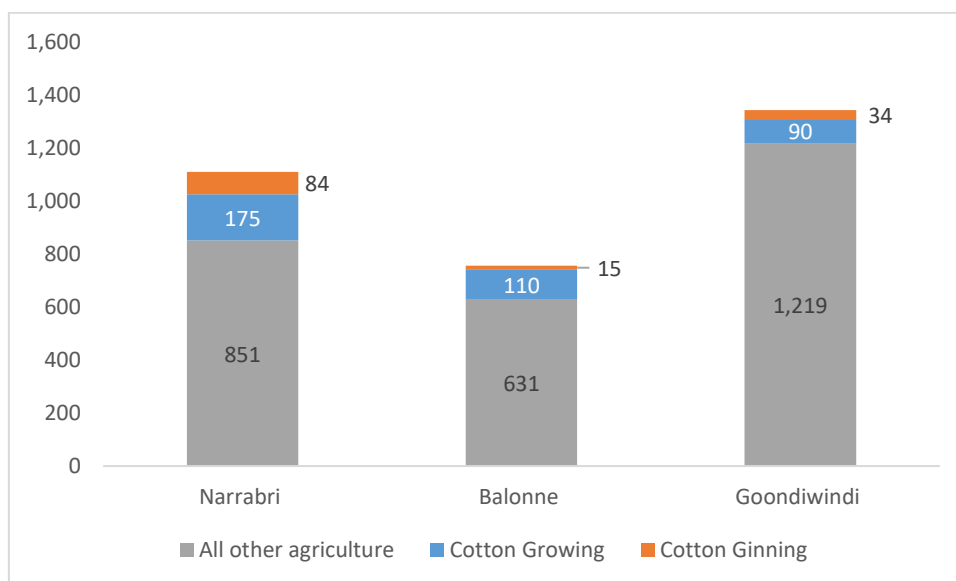
The attractive economics of cotton have led northern Basin irrigation to focus almost entirely on the one crop. Cotton growers have invested substantially in capital equipment, with Cotton Australia's submission highlighting specialised cotton pickers

worth over \$1 million and that there are 41 cotton gins in Australia.<sup>38</sup> The Australia Institute has noted these investments and inspected some of these machines in earlier research on the economics of agriculture in the northern Basin.<sup>39</sup>

## EMPLOYMENT

The capital-intensive nature of cotton production means that while a lot of money is invested and a lot of machinery used, relatively few jobs are created. For example, three major cotton producing area local governments have made submissions to this inquiry – Goondiwindi Regional Council, Balonne Shire Council and Narrabri Shire Council. Each emphasises the role of cotton to their region in their submission and the potential impacts of a sudden cotton export ban on the local cotton industry. We do not contest the local impacts claimed by the councils. However, despite being well known for cotton production, cotton growing and ginning both make up only a modest portion of agricultural employment in these areas, as shown in Figure 6 below:

**Figure 6: Employment in cotton growing, ginning & other agriculture, selected areas**



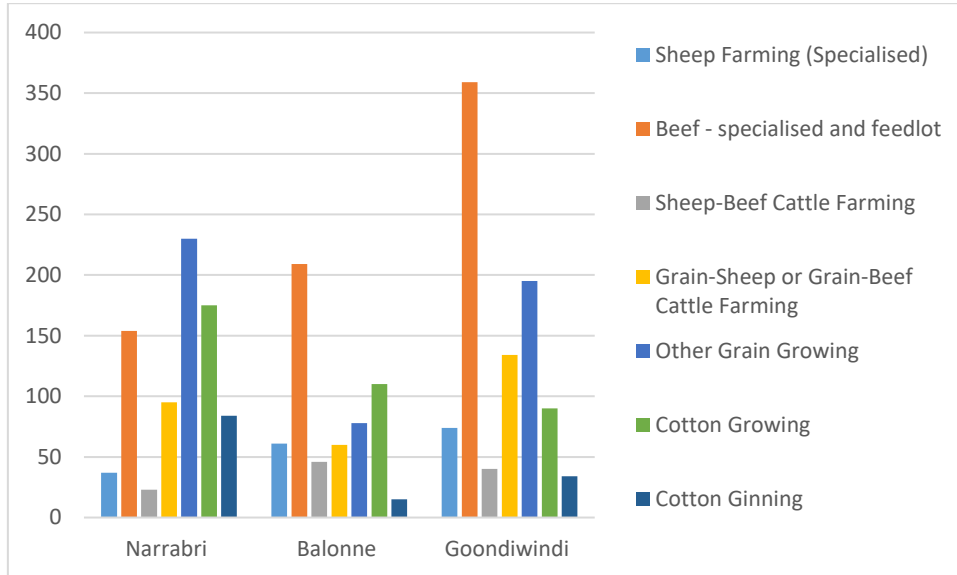
Source: ABS (2016) Census

<sup>38</sup> Cotton Australia (2019) *Submission to the Australian Senate Inquiry into the Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019*, [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Rural\\_and\\_Regional\\_Affairs\\_and\\_Transport/BanningCottonExports/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/BanningCottonExports/Submissions)

<sup>39</sup> Campbell (2014) *Submission: report on proposed Watermark Coal Project*, <http://www.tai.org.au/content/submission-report-proposed-watermark-coal-project>

The census data in Figure 6 above is broken down further showing some of the main agricultural sub sectors in Figure 7 below:

**Figure 7: Agricultural employment in cotton growing areas**



Source: ABS (2016) Census

Note that while cotton ginning is included in the above calculations, other agricultural services relating to grain and livestock farming, such as slaughterhouses, grain storage and processing, etc are not included. As Cotton Australia points out, once Australian cotton is ginned, it is baled and exported:

Once the cotton bales are ginned, pressed and containerised, they are loaded on to trucks and trains and sent to port for shipping, mostly to overseas markets.<sup>40</sup>

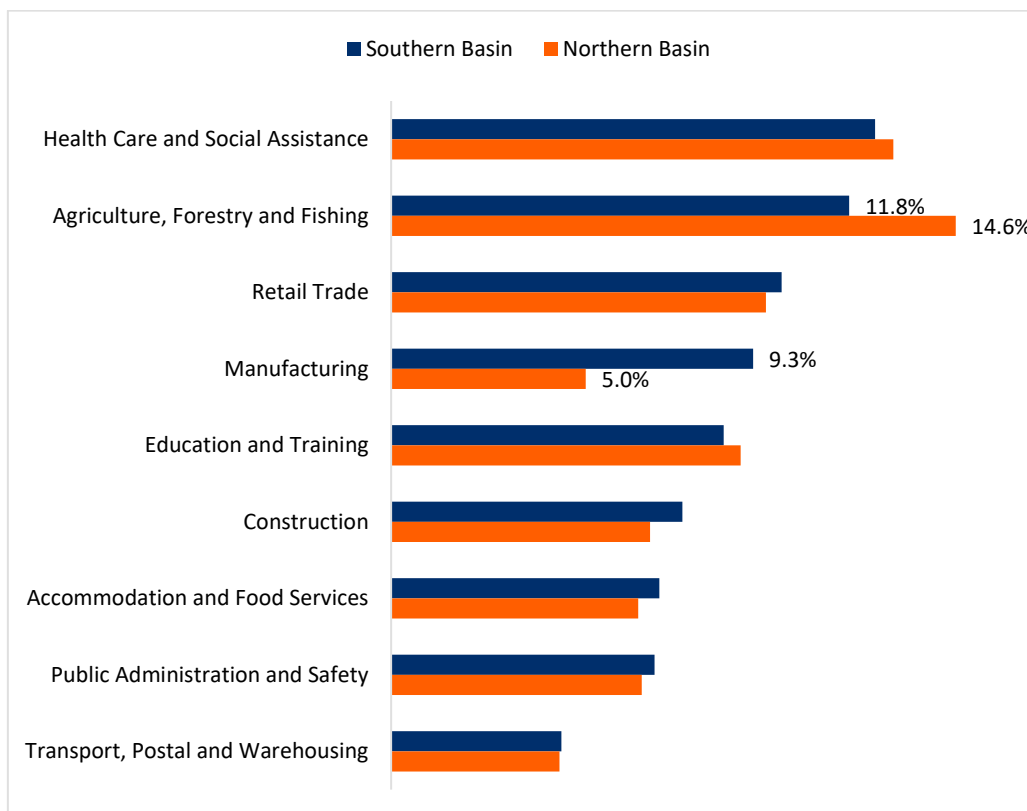
Australia-wide only 422 people work in cotton ginning.<sup>41</sup> Beyond ginning, very little value is added to cotton in Australia. By contrast, other agricultural products are extensively refined, processed and manufactured in Australia. Comparing the southern Murray Darling Basin with the cotton-dominated northern Basin demonstrates this, as shown in Figure 8 below:

<sup>40</sup> Cotton Australia (2018) Processing, exporting and marketing, <https://cottonaustralia.com.au/cotton-library/fact-sheets/processing-exporting-and-marketing>

<sup>41</sup> ABS (2016) Census, accessed through TableBuilder Basic



**Figure 8: northern and southern Basin employment, selected NRMRs**

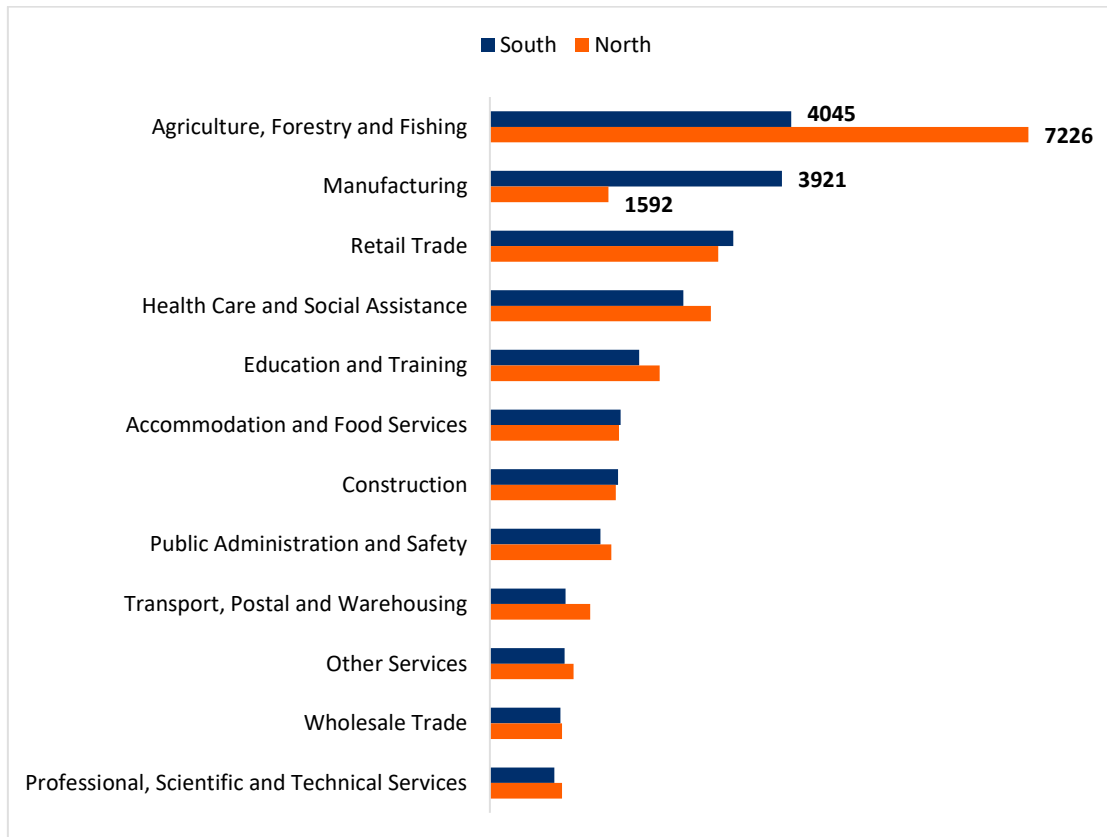


Source: ABS (2016) Census

Figure 8 compares the Natural Resource Management Regions of Riverina and Murray, representing the southern Basin, with North West and Central West, representing the northern Basin. Like Australia overall and most regions of the country, health care and social assistance is the largest employing industry. The key difference between the two regions is in agriculture, forestry and fishing (which includes cotton ginning) and manufacturing (which includes all food processing). While the north has a slightly larger share of employment in agriculture, the south has a manufacturing sector nearly twice as large.

Figure 8 includes some major population centres that serve to minimise these differences. Depending on how northern and southern basin areas are defined within ABS regions, the difference between southern and northern agriculture and manufacturing is more or less stark. Figure 9 below compares Griffith, Leeton, Murray River, Narrandera, Hay and Edward River local government areas in the south with Moree Plains, Walgett, Balonne, Goondiwindi, Inverell, Narrabri and Gwydir in the north:

**Figure 9: northern and southern Basin employment, selected LGAs**



Source: ABS (2016) Census

Figure 9 shows the clear difference between employment in the southern and northern Basins, with irrigated agriculture in the north focussed on cotton exports with minimal processing, while irrigation in the south involves far more value adding, showing up in the far higher employment in manufacturing. The south supports a large wine industry, rice milling, meat and poultry processing, vegetable processing and a range of other food manufacturing. The north's identified manufacturing sectors are only meat processing and baking before non-food manufacturing sectors begin.

Both south and north areas in Figure 9 have total employment around 30,000 people. Being nearly the same they are displayed in absolute numbers rather than percentages as in Figure 8, where the total southern employment of almost 125,000 is significantly larger than the north's 97,000.

The pattern of an agriculture-heavy north and a manufacturing-heavy south increased between the 2011 and 2016 censuses. The south saw manufacturing employment increase by around 140 between 2011 and 2016 while manufacturing employment declined by 240 in the north.

## NORTH-SOUTH LINKAGES

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The differences between the economies of the north and south are caused by many factors, including the different crops grown. The impact of a ban on cotton exports, or other policy to diversify the northern Basin, would certainly have costs – capital investments in cotton farms would be severely affected. However, potential benefits could include diversifying the agricultural industry and wider economy if more value adding activity could be brought to the north.

Another impact of excessive water use in the north is its impact on the southern Basin. NSW and Victoria have an obligation to deliver water to South Australia each year and with less water coming out of the northern Basin, this obligation has to be met by the southern Basin. This comes at a cost to water users in the southern Basin and the processing industries that depend on them.

A wider problem is that the economic development of the Murray Darling Basin has been seen only through the lens of irrigation. The dominant narrative is that with more water regions will develop more, with less water less development. The above discussion shows that the reality is more complex – economies develop differently depending on what people do with resources including irrigation water. While the northern Basin pursues a single profitable crop that benefits its growers, the south has developed downstream industries and economies that are more diverse.

Simply allowing the market to allocate irrigation water has generated the cotton industry that we see today and to some degree the damage that has been done to the Lower Darling/Barka and Menindee Lakes. A similar process appears to be taking place in the southern Basin, where smaller farms, particularly in the dairy sector, are struggling for viability while major investments in nuts are expanding elsewhere. These changes have major social implications for regions that are inadequately considered in the management of the Basin. Clearly, there is a role for government policy and community consultation regarding the allocation of natural resources in the Basin. We hope that this inquiry will contribute to this debate and policy development process.

# Failure of industry leadership

In July 2017, Four Corners aired allegations of large-scale water theft by two cotton growers in the Barwon-Darling. Since then, there has been more than 100 revelations of examples of mismanagement and malfeasance of the implementation of the Murray-Darling Basin Plan. The Australia Institute Report, *The Basin Files: Maladministration of the Basin Plan – Volume 1*, is a compilation of media coverage of these revelations since Four Corners until May 2018.<sup>42</sup> Where those revelations relate to irrigators, they relate almost exclusively to the cotton industry.

The leadership of the Cotton Industry react strongly to any allegations of wrong doing of their constituents or industry:

Cotton Australia is very proud of our industry that produces a quality fibre that is in demand both here at home and around the world; but as an industry we are growing very tired of being ‘the whipping boy’ for all the problems that are being brought on by this crippling drought.<sup>43</sup>

They also react strongly when commentators like the Australia Institute explain the policies of prioritising water sharing and allocations:

Our industry will not be bullied by anti-cotton activists masquerading their views behind data that has been manipulated to suit their cause.<sup>44</sup>

However, there does not appear to be any measures in place to self-regulate the industry or reign in rogue operators. In fact, some of the reports of illegal or inappropriate behaviours even relate to industry representatives.

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<sup>42</sup> Slattery and Campbell (2019) *The Basin Files: The maladministration of the Basin Plan: Volume 1*, <http://www.tai.org.au/sites/default/files/P531%20The%20Basin%20files%20Vol%20I%20%20%5BWEB%5D.pdf>

<sup>43</sup> Heard (2019) *We’re sick of being the ‘whipping boy’ – Cotton Australia*, <https://www.farmonline.com.au/story/5845558/were-sick-of-being-the-whipping-boy-cotton-australia/>

<sup>44</sup> Murray (2019) *We won’t be bullied by anti-cotton activists*, <https://cottonaustralia.com.au/news/article/we-wont-be-bullied-by-anti-cotton-activists>

### *Fraud of Commonwealth funds*

John Norman has been arrested for the fraudulent use of \$20 million of funds from the Commonwealth efficiency program.<sup>45</sup> Mr Norman is a former Cotton Grower of the Year.<sup>46</sup> We are not aware that his award has been revoked.

### *Threats by Cotton Australia staff*

Rob McBride is a prominent and out spoken grazier in the Lower Darling. A video showing him hold dead Murray cod after the 2018-19 summer fish kill received nearly 6 million views.<sup>47</sup> Police are currently investigating an allegation that a senior employee of Cotton Australia threatened Rob McBride after a public water forum in Sydney and allegedly said:

Unless you stop your Facebook page, the Cotton Industry will unite throughout Australia and crush and destroy your family, your business and Tolarno Station.<sup>48</sup>

The allegation also includes statements that were made by Cotton Australia representatives to the then NSW Legislative Council member, Jeremy Buckingham, whose contemporaneous notes said:

[Cotton Australia] will go to war with the McBrides. We don't want war with the McBrides. You are in a position to broker an end to the conflict.<sup>49</sup>

Max Phillips, a staffer to Mr Buckingham, was also present and he recalled the conversation as:

We will go to war with the McBrides.

We don't want to go to war with the McBrides.

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<sup>45</sup> Hamilton-Smith (2019) *Cotton farm execs accused of \$20m fraud over Murray-Darling water funding*, <https://www.abc.net.au/news/2018-08-28/cotton-executives-20-million-fraud-allegation-norman-farming/10172736>

<sup>46</sup> Cotton Seed Distributors (2011) *Monsanto Cotton Grower of the Year/ Macintyre Valley Cotton Field Day 2011*, <http://www.csd.net.au/news/751-monsanto-cotton-grower-of-the-year-macintyre-valley-cotton-field-day-2011>

<sup>47</sup> McBride (2019) *Video: Menindee resident Dick Arnold and Rob stand in the Darling river above Weir 32*, <https://www.facebook.com/TolarnoStation/videos/1005409629583240/>

<sup>48</sup> Henderson (2019) *Fish kill farmer files complaint with police alleging he felt 'intimidated' by cotton industry rep*, <https://www.abc.net.au/news/2019-03-08/rob-mccbride-files-police-complaint-against-cotton-australia/10884334>

<sup>49</sup> Henderson (2019) *Fish kill farmer files complaint with police alleging he felt 'intimidated' by cotton industry rep*, <https://www.abc.net.au/news/2019-03-08/rob-mccbride-files-police-complaint-against-cotton-australia/10884334>

You [Buckingham] are in a position to intervene and stop us going to war with the McBrides [by stopping the targeting of cotton as a cause of the problems in the Murray Darling].

You can step in to ensure we don't have to go to war with the McBrides.<sup>50</sup>

Mr Buckingham and Phillips state that Adam Kay, the CEO of Cotton Australia was standing next to the employee when the threats were made.

#### *Extraction of environmental water*

Last year, conditions for some water licences in the Macquarie Valley were inadvertently changed to legally allow the extraction of environmental water bought and paid for by governments. In 2018, some of the environmental water was diverted for irrigation by Michael Egan, who is the Chair of Macquarie River Food and Fibre – the representative body for irrigation (mainly cotton) in the Macquarie Valley. Mr Egan is reported as saying:

he would "most likely" seek compensation if the government changed the rules to limit his licence.

The ball's in their court if they want to come to a solution.<sup>51</sup>

If the cotton industry is to regain the trust of the wider public, its leaders need to take environmental, social and governance issues more seriously.

#### *Leadership in the industry*

An example of good leadership in the industry is a voluntary embargo on extracting flows from the Namoi River at the time of writing, initiated by the valley's peak irrigation group, Namoi Water. Jon-Mare Baker, the Executive Officer said:

We recognised that for the health of the river system overall, including those downstream, it was best to get out and tell our members not to pump.<sup>52</sup>

This is the type of leadership that is lacking, but much needed in the cotton industry.

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<sup>50</sup> Henderson (2019) *Fish kill farmer files complaint with police alleging he felt 'intimidated' by cotton industry rep*, <https://www.abc.net.au/news/2019-03-08/rob-mccbride-files-police-complaint-against-cotton-australia/10884334>

<sup>51</sup> Hannam (2019) *'Anomaly' lets farmer use environmental water for cotton crop*, <https://www.smh.com.au/environment/sustainability/anomaly-lets-farmer-use-environmental-water-for-cotton-crop-20190215-p50y3a.html>

<sup>52</sup> Heard (2019) *Regulators say all clear in terms of Namoi water embargo compliance*, <https://www.farmonline.com.au/story/6014237/namoi-irrigators-win-compliance-tick-of-approval/>

# Conclusion

Banning cotton exports from Australia would be a drastic measure that would cause significant disruption to large parts of the irrigation industry in the Murray Darling Basin and is unlikely to be in the public interest. However, changes to water policy are required to bring transparency to the cotton industry and to better manage Australia's water resources. Policy change is needed to ensure water extraction is sustainable and rules and regulations are enforced. Policies to strengthen and add diversity to regional economies are likely to be in the public interest.

## *Recommendations*

1. MDBA publishes a reconciliation of the estimated 2018/19 cotton crop, water used and sources;
2. MDBA publicly confirms that Cap credits will be eliminated when the Sustainable Diversion Limit is implemented;
  - a. If not, that there is a full and independent review of the Cap credits.
3. The allocation policies are reviewed to ensure that the river and towns are prioritised before allocations are made.
4. The actual floodplain harvesting take since 1993/94 (NSW) and 1999/2000 (Qld) is published.
5. The location, size and volume of on-farm storages is made publicly available.
6. A range of government agencies should collaborate on developing economic development policies that diversify Basin economies.
7. A review should be undertaken on the socio-economic impact of water trading, particularly on the viability and diversity of local industries.
8. A policy framework for Regional Economic Development is developed.
9. The Committee recommends that the Cotton Industry improve its self-regulation and develop a best practise code of conduct for its representatives and members.