Submission No 59

INQUIRY INTO FLOODPLAIN HARVESTING

Organisation: Border Rivers Food & Fibre Inc.

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Submission to the Select Committee on Floodplain Harvesting on the Inquiry into Floodplain Harvesting Regulations

Submission Due by 5pm Friday August 13th 2021

Prepared by

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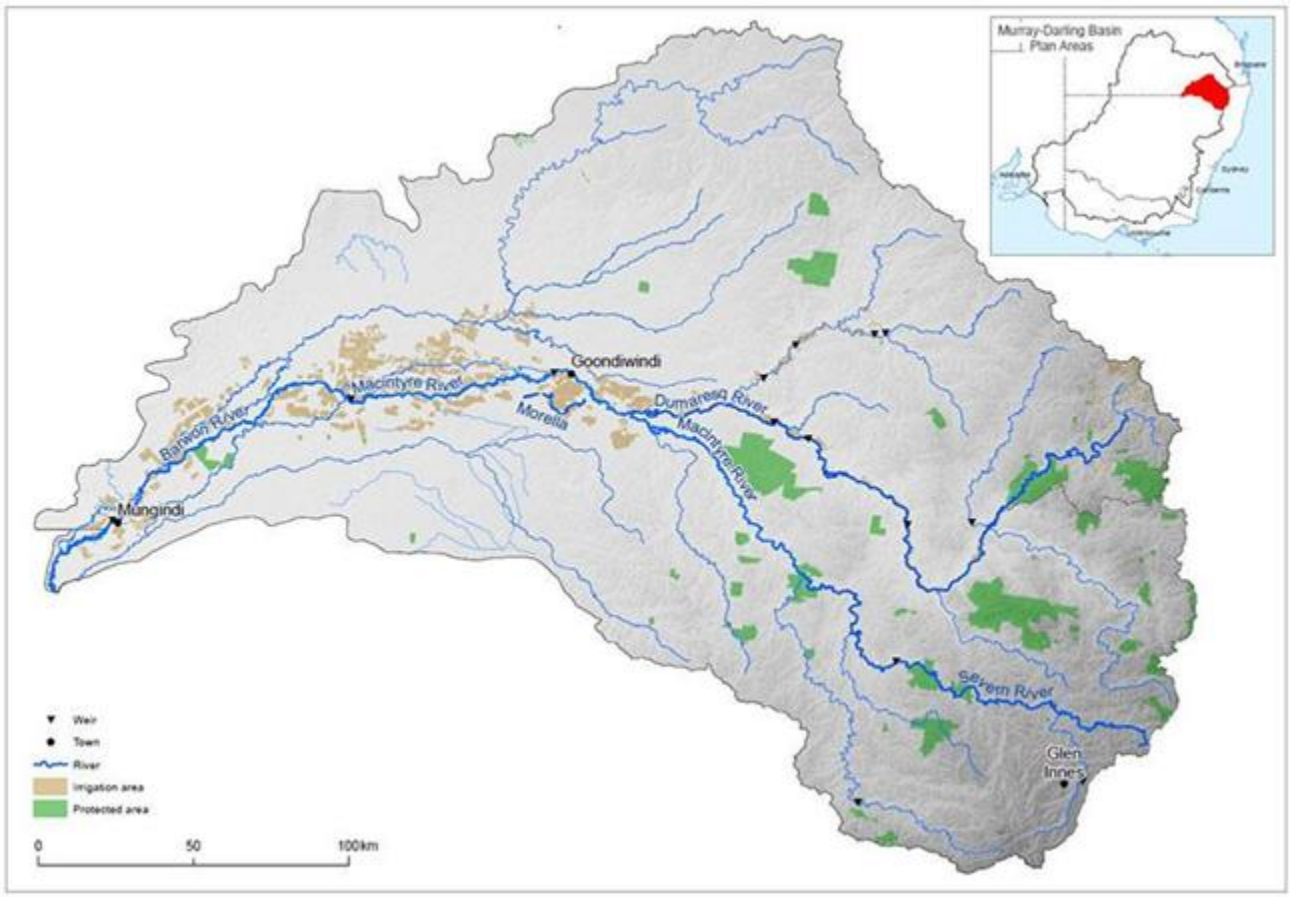
INTRODUCTION

Border Rivers Food and Fibre (BRFF) represents the water users and entitlement-holders of the Border Rivers region of southern Queensland and northern New South Wales. These water-users responsibly utilise the water resources of the Macintyre Brook, the Dumaresq, Macintyre, Severn, Weir and Barwon River systems and the Eastern Recharge Zone of the Great Artesian Basin. Production from irrigated agriculture includes vegetables, nuts, dairy, citrus, wine-grapes, herbs, stone-fruit, hay, cereals, coarse grains and cotton. Irrigated agriculture contributes nearly $1 Billion (farm gate) to the local economy in good years.

The catchment area of 49,500 km^2 makes up 4% of the Murray Darling Basin and it comprises 5% of the total basin water resources.



This document represents the views of the members of BRFF, though individuals are entitled to their own views relating to their own circumstances.

BRFF is also a member of the NSW Irrigators Council and National Irrigators Council. Whilst generally endorsing their views, we maintain the right to hold independent positions when appropriate.

TERMS OF REFERENCE

THAT A SELECT COMMITTEE BE ESTABLISHED TO INQUIRE INTO AND REPORT ON THE GOVERNMENT'S MANAGEMENT OF FLOODPLAIN HARVESTING, INCLUDING:

(a) the legality of floodplain harvesting practices,

(b) the water regulations published on 30 April 2021

(c) how floodplain harvesting can be licensed, regulated, metered and monitored so that it is sustainable and meets the objectives of the Water Management Act 2000 and the Murray Darling Basin Plan and,

(d) any other related matter.

GENERAL COMMENTS

BRFF are intent on playing a constructive role in the future of water administration in NSW and have always sought pragmatic and realistic outcomes to provide long term futures for everyone concerned, based on established facts. We have historically demanded higher standards of administration and management than the NSW Government has seen fit to provide. In some cases we have done it ourselves.

It has been disturbing to observe the nature of the debate that has enveloped this subject over the past few years. The denial of established facts, the baseless allegations and the deliberate spreading of 'alternative facts' in the public discourse has remarkable similarities to the climate denial and Covid denial industry. What has been particularly disturbing has been the willingness that some elected members have shown to join in perpetuating these myths to further their agendas. It seems that some are happy to take their information from Facebook and try to discredit the experts in the field. We have observed school-yard bullying occurring against our farmers and their representatives, members of the press threatened and intimidated and the unsettling incursion of multi-millionaire businessmen, some from interstate, cultivating cosy relationships with some members of the NSW Parliament with expectations that they will do their bidding.

The topic of water in the Basin is extremely complex and therefore easily misrepresented, misunderstood or misconstrued by those with little knowledge. We trust the Committee is able to sort the 'wheat from the chaff' in this regard.

Just because a point is commonly believed and often repeated publicly, particularly on social media, doesn't make it true.

It is our observation that most legitimate concerns about the practice of Floodplain Harvesting (FPH), the subject of this inquiry, are concerns about drought and climate change.

KEY CONCERNS

We have heard the concerns expressed by some stakeholders about the risk that licensing FPH may create, specifically:

1. Posing a threat to downstream water-users such as town water supplies.
2. The potential cause for environmental damage.

Our response to both of these concerns is that both circumstances will be improved by the licensing of FPH and the management using the proposed regulations. Disallowing the regulations has technically allowed even greater levels of extraction. Neither can more draconian restrictions create water in the depths of a severe drought.

DROUGHT

The drought period of 2017 to 2020 was horrific for everyone living with it. Its impact was widespread across the Murray-Darlin Basin but being particularly severe across the northern basin.

- This statement analyses rainfall and hydrological data from the extremely dry period from January 2017 to December 2019, and the generally wetter conditions from January to April 2020.
- 2018-2019 and 2017-2019 had record lowest two- and three-year rainfall totals, respectively, for the Murray–Darling Basin and for New South Wales.
- Rainfall for the northern Murray–Darling Basin for these periods was lowest on record by a substantial margin, breaking records originally set during the Federation Drought in 1900−1902.

Source: Bureau of Meteorology - Special Climate Statement 70 – August 2020

We acknowledge the valid concerns of downstream communities who have endured, as we have, the resulting threats to and loss of their water supplies but hasten to point out that FPH did not cause the drought. *Eight of the thirteen driest years on record in the Darling tributaries have occurred in the past 20 years,* with median inflows into Menindee Lakes reduced by about 80%. We too had towns in our valley, such as Tenterfield, at the very top of our catchment, that ran out of water in 2019 and were forced onto emergency supplies (See Ch 7 News story: https://youtu.be/0NcihSPGUiY). Since the start of this century, the Border Rivers has only experienced two major flood events (2011-12 and 2016), which is significantly fewer than pre-2000. Statistically, significant floods have occurred on average about every 5 to 7 years.

We also acknowledge the vital importance of preserving the health of our riverine environment. Our members have been engaged with State departments, CMA's and LLS, working on these programs since they began. We live and depend on the river too and share the same close affinity with its health and natural cycles as anyone else who shares that privilege. We celebrated the recognition of the Border Rivers being identified as the healthiest working river in the MDB in 2008 (Source: Sustainable Rivers Audit, 2008). Our communities are no less concerned about the long-term impact of climate change on our environment, probably more so, but are also no less deserving of a 'fair share' of the use of the resource, when it is available, as any others.

Licensing and regulation of FPH will not provide any farmer with any more water, in fact they will only get less. But we require certainty around those licences with realistic rules and consistent application of policy by government.

4.1.1. Record low soil moisture in December 2019

The dry conditions in the Murray–Darling Basin began in January 2017 and many areas remained dry for the subsequent three years (36 months) to December 2019.

Mean root zone (0-100 cm) soil moisture levels for the 36 month period January 2017 – December 2019 set new record lows in large areas of the Murray–Darling Basin, particularly in the east from where the bulk of the water is sourced (Figure 7). The river catchments that experienced lowest on record soil moisture for this period represent the major water yielding catchments for the Darling River in particular. These values provide an indication of the moisture stress experienced by vegetation and the severity of agricultural drought in these regions.

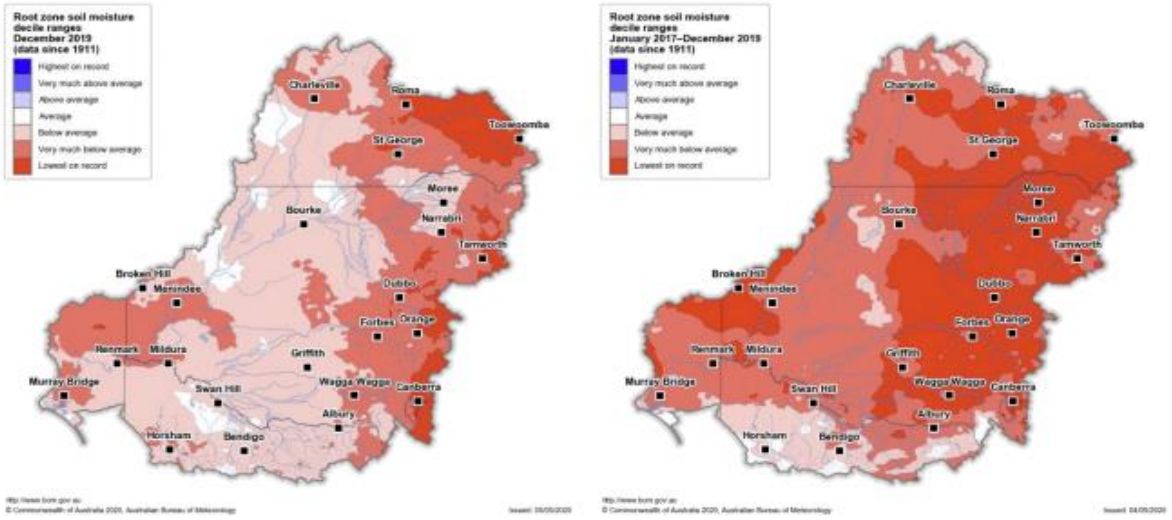


Figure 7. Root zone soil moisture deciles for December 2019 and the 36-month period January 2017 – December 2019 in the Murray–Darling Basin. From the AWRA-L v 6 model for the top 100 cm of the soil profile, based on data from January 1911- April 2020.

5. The current event compared to past droughts

The Murray–Darling Basin previously experienced major multi-year droughts in 1895–1903, 1938–1946, and 2001–2009. The general pattern in inland New South Wales and Queensland has been one of a relatively dry first half of the 20th Century, a relatively wet second half of the 20th Century (with especially wet decades in the 1950s and the 1970s), then a return since 2001 to drier conditions (except during the extremely wet 2010–11 and 2011–12 La Niña events). The more limited evidence available suggests that rainfall in the late 19th Century was comparable to that of the 1950–2000 wet period.

While each of these droughts has a different spatial and temporal footprint, the current event has reached levels of intensity on two to three-year timescales unmatched in any of the previous events of the Basin, although it has not yet persisted for as long as the previous major multi-year droughts. The recent drought has reached its maximum intensity in the northern Basin, with the southern Basin being less severely affected, whereas the reverse was true during the 2001−2009 drought.

Compared to earlier droughts, the current drought has taken place against a backdrop of rising temperatures due to global warming. Since 1970, most of the region has been warming at a rate of between 0.2 °C and 0.4 °C per decade, with a total warming of more than 1 °C. For the Murray–Darling Basin, the last seven years have had mean temperatures at least 1 °C above the 1961–1990 average, ranking amongst the ten warmest on record for the Basin (with 2019 being the warmest).

Source: Bureau of Meteorology - Special Climate Statement 70 – August 2020

If it doesn't rain in the tributary catchments, there are no inflows. No government regulation can change that.

It is also worth considering the role that headwater storages played management of the drought. The fact that there were dams in place with operating rules catering for droughts meant that the rivers did not dry up sooner than they did and that some towns were able to persevere through the drought. With future climate change projections there will be fewer, larger but less regular inflows so the importance of storages becomes paramount. To secure regular flows down the unregulated Darling there needs to be dedicated storage built to store the water for release during drought periods such as we have just endured.

Climate Change Impacts

As an agricultural community we are acutely aware of the projections for further impacts of climate change on water resource availability. We know that our summers are already hotter and that droughts, at least in the past 2 decades, are becoming longer in duration and more severe in impact. Our farmers have had to adapt to survive with long periods with no water and therefore no irrigated crop. We know that projections for the future predict that our overall rainfall averages will mostly remain, that the intervals between the wet years are likely to extend. Farmers need to be able to make the most of the good years when they occur so that they and their communities can survive the droughts. While licensing and the proposed regulations will produce a cutback in volumes available below current levels, it will achieve stability to the overall portfolio of water products available in our region.

Access Rules

The rules governing our access to water are based on the principle that we are entitled to a pre-determined share of the resource, only when it is available. This is also the case with the proposed FPH regulations. This approach has at its basis the rules protections for low flows and drought periods, because that has been the historic climate.

FPH occurs at the opposite end of the climatic spectrum to droughts, when it is very wet, when streams are swollen and overflowing, usually not in drought when it is very dry.

One of the complications of the FPH Policy is the inclusion of Rainfall Runoff (RRO) which requires, for the first time, that a farmer needs a licence to pump rainwater off his own property. This sets an interesting precedent for the rest of the state in the future, as the policy completes it's rollout statewide.

There are already separate policy processes commenced to examine more First Flush restrictions which would further reserve the first post-drought flows for critical human needs and the environment across the state. A clear distinction needs to be drawn between FPH and First Flush as they are not the same thing – FPH occurs in floods, First Flush can only apply in drought.

Observing some of the popular rhetoric around this subject, it is clear that many contributors to this discussion are not aware that downstream requirements are already taken into account in existing WSP's in the tributaries of the Darling, the Interim North-west Unregulated Flow Plan was introduced in the mid-1990's as part of the MDB CAP agreements and following the drought and resulting low flows that occurred at that time. The reductions were increased in the early 2000's when access thresholds for what was then known as 'high-flow' water (under 1912 Act, now Supplementary under WMA 2000) were increased, ensuring that the smaller, low flows were no longer able to be extracted as they had in the past and were preserved for downstream critical human needs and the environment. At that time, the access thresholds were raised from 5000ML at Goondiwindi to 10,000ML/day. These downstream flow targets and access thresholds are still

embedded in our Water Resource Plans and Water Sharing Plans. In addition to these cutbacks, the advent of the first Water Sharing Plans (WSP's) in 2008 also made cutbacks of approx. 15% across the valley with new environmental flow rules. Combined, this had the effect of reducing total volumes available to farmers significantly, some by as much as 50%, none of which was compensable.

In the Border Rivers, our water plans were established to provide a combined (both states) end of system flows of close to 70% of 'natural', though these are partly made on estimates of flood flows as they cannot be accurately measured across the entire floodplain and braided drainage channels, so are likely to be higher.

Add to this that 'under-usage,' the difference between permitted and actual take, is now a significant factor in our valley and across the state. The recent MDBA CAP compliance reports showed that the Border Rivers was 21% below its permitted take. What this shows is water-use in the NSW Border Rivers isn't bumping up against the limits of current rules. It follows that the problem of lack of water in a drought can't be fixed with more restrictions and rules changes to irrigators. It can only occur with more rainfall to produce more inflows.

MENINDEE LAKES STORAGE

It must also be acknowledged that the biggest FPH infrastructure in the system is the Menindee Lakes system with a capacity to take more than 2,000,000 (million) ML of floodwater from the Darling. Based on the smaller, ephemeral lakes that filled in floods and dried up in droughts, it was built by the NSW Government exactly for this purpose, so that Darling River flood waters could be better utilised. Because of its shallow depth and broad expanses (457km2) of surface area, losses to evaporation alone can be over 400,000ML/yr (approx. 1 Sydney Harbour). To put this in perspective, daily losses are over 1000ML/day.

We have no issue with the fact that this water is utilised for the best outcomes for the state of NSW, we just point out that the principle of water conservation is the same: capturing it when it is abundant for beneficial use for the state of NSW when it is not.

Our members rightly question some of the management when the system is drained quickly with no foresight to drought and climate change. When we have given up large chunks of our water resource already for the benefit of downstream requirements, it is unacceptable that so much of it is then managed in a profligate fashion and wasted, lost to all uses through evaporation, with little attempt to maximise efficiency of storage and use. This is made all the more offensive when fingers are pointed upstream as soon as the drought bites, false allegations are made laying the blame for the drought at the feet of upstream communities.

There is also an important point of using the resource as close as possible to its source, ie. where the rain falls. As an example, in a flow of 100 units, farmers are able to extract 30 units in the Border Rivers to grow various produce and the remainder goes downstream. Depending on the flow and the conditions, as little as 10 units may make it to Menindee. After losses from evaporation while in storage, the amount available for use downstream of Menindee is close to 5 units.

Downstream Impacts of FPH

Some of the more sensational claims made have concerned the downstream impact of FPH, particularly that stopping FPH will increase Murray General Security allocations. NSW DPIE have examined this question and have published the findings on their website at Impacts of Floodplain Harvesting Growth - Water in New South Wales (nsw.gov.au)

While there is a problem with their assumptions that 100% of floodplain water returns to the river, they state: *"by the time these foregone diversions reach the end of the Barwon-Darling the model indicates that implementation of the Policy in the upstream Border-River and Gwydir will provide an annual average* ***increase*** *of up to 26.2 GL (1.9%) at Wilcannia".*

"Policy implementation [in the Border Rivers and Gwydir valleys] is simulated to provide an annual average increase of 28.3 GL to Menindee inflows or 1.8% of the total. This additional volume has a negligible impact on diversion and/or allocations in the Lower Darling and Murray systems."

Inquiry Terms of Reference

(a) the legality of floodplain harvesting practices

We have always understood the practise of FPH being lawful because it was so thoroughly encouraged by past NSW Governments, starting with Neville Wran in the 1970's and 1980's. In technical terms, we understand that under the 1912 Act the legal authority came from the Part 2 and Part 8 provisions, which authorised the construction of levee banks and other works on the floodplain for the purpose of FPH, on-farm runoff and other water storages.

There is no requirement to measure and account for FPH under the 1912 Act and it was considered by government as unnecessary as it was so infrequent and concerned such a small proportion of a flow. This requirement is introduced under the WMA 2000 and detailed plans are already part of the regulations which have been disallowed and therefore not currently in effect.

Licensing of FPH will finalise the progression of water administration to the WMA 2000, which water users recognise as necessary for the long term security of their water resources.

Water-users have done nothing wrong here. It has been the inaction in not licensing FPH sooner, by successive NSW Governments over many years, which created the uncertainty that currently exists. The ambiguity will only be ended with the licensing and proposed regulations for FPH, but have been unnecessarily extended by their disallowance.

(b) the water regulations published on 30 April 2021

We understand that the Select Committee has already been briefed in detail about the regulations by Departmental officials and it is not our role to advocate for government regulations

The process to arrive at this point with these regulations has been long and thorough. The FPH Policy was first commenced in 2008 by then Minister Nathan Rees with the undertaking that it would license existing

extractions and bring FPH under the WMA 2000 with everything else. Unfortunately, the Healthy Floodplains program did not get fully underway until the last few years but has been broader and more inclusive (and more costly) than any other government water regulation than any other we have seen. This arduous process has arrived at a set of regulations to manage FPH in the future. While we do not unanimously agree with every detail of the regulations around FPH, especially as it reduces every water-user's level of take, we understand the need for consistent water administration across the state of NSW and the long-term sustainability of our communities, especially in a future impacted by climate change. We also recognise that these regulations will ultimately apply state-wide.

Licensing must be able to be finalised, as committed to by successive NSW Governments, to bring all different forms of water take under the WMA 2000.

(c) how floodplain harvesting can be licensed, regulated, metered and monitored so that it is sustainable and meets the objectives of the Water Management Act 2000 and the Murray Darling Basin Plan

The requirements of the Basin Plan and the Water Management Act 2000 are not new. FPH was always intended to be licensed under the WMA 2000 once the other, higher priority water products (groundwater, General Security, etc.) were licensed and plans established.

The practice was recognised as a legitimate form of take as it was deemed to be lowest risk, even though volumes were significant, as it was the taking of water when it was at its most abundant. It must also be recognised that at the time the NSW Government were addressing the problem of widespread economic damage caused by the regular flooding of the tributaries of the Darling. Flooding caused significant damage during the last half of the 20th century (and still does today) and were a large part of the justification for the building of headwater storages. Even today, rules exist for the operation of these dams for flood mitigation purposes. Even after the dams were built, flooding continued to be a major economic problem for the northern inland, damaging dryland crops, pastures as well as major infrastructure such as roads and rail lines. When the NSW Government was looking to build extra headwater storages in the 1970's and 1980's, they recognised the opportunity to allow the newly developing irrigation industry to access overland flows to store in their privately owned on-farm storages. By encouraging this access, this increased the water storage capacity of the regions and negated the necessity to spend more taxpayers' funds on headwater storages. It reduced the flood damage occurring, increased the economic productive capacity of each region, all at minimal cost to the NSW taxpayer.

It must also be acknowledged that an important part of the reforms enabled by the WMA 2000 is the creation of property rights for water licences, by separating them from the land title and allowing for trade. These have provided immense security and under-pinned financial health of all water entitlement holders across NSW. We recognise that there have been some imperfect outcomes from this move and we don't much like the idea that water can be owned by someone other than a farmer, but overwhelmingly the impact has been positive. The creation of FPH licences does not create a windfall financial gain for those farmers as the value has already been recognised in the value of the land but will be able to be separated to allow for limited trading.

The Basin Plan BDL's and SDL's are described by the MDBA as 'recipes and formulas for water planning' rather than hard numbers. They recognised from the outset that water administration is not an exact science, that there were large parts of the water accounts across the basin that were only estimated volumes, some

modelled, and that detailed work was required to refine each one of those categories down to the point where they could be licensed and better managed. In fact, the NSW Government at the time delayed the Healthy Floodplains program until it was funded by the Federal Government. Therefore, FPH policy wasn't formally initiated until July 2008 when Minister Rees announced the FPH Policy. As a result, early estimates of FPH volumes were widely regarded as meaningless until the detailed work had been done.

Another key impediment to conducting the FPH work has been the relatively sparse distribution of stream gauges and data. We have had long-running issues with flood information as gauges are spread widely geographically, are owned by numerous entities (BOM, State Departments, Local Councils) have different reporting intervals (some are real-time, some report once a day. During floods, some stop working.) Some streams are not gauged at all due to the infrequency of their flows and in some cases the distance between gauges on the main river can be several days' flow apart. We have called for these information gaps to be filled many times so that flows are fully 'visible' and data is more easily accessible for the public. This provides further transparency and aids confidence in the system.

It must also be understood that there is no scope for the re-regulation and therefore management of Barwon-Darling flows below the regulated catchments, aside from the relative minor town weir pools. Once these weirs are drowned-out in a flow there is no control of them until they reach the main diversion wall at Menindee Lakes, where they are diverted into Lake Wetherell and then into other lakes in that storage complex.

Appendices – BOM Special Climate Statement – August 2020

BRFF – FPH – A Historical Context