

**Submission  
No 267**

## **INQUIRY INTO FLOODPLAIN HARVESTING**

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## **NSW Select Committee on Floodplain Harvesting**

This submission is lodged on a personal and individual basis. The context of my experience is as a resident of NSW (current) and an association with the Murray Darling Basin spanning 65 years. Of that time 57 years have been spent living somewhere within the Basin.

I grew up in the Riverland area of South Australia and have maintained connections with that region as the family home and contacts from childhood days. I have never farmed or irrigated, however, having pursued a technical construction based career and general interest in matters geographic and environment coupled with lived experience, I believe I have a sound general knowledge upon which to base comment.

At this juncture, I state that I am not diametrically opposed to irrigation, perhaps more aptly described as accepting it within reasonable bounds, provided that it is conducted within the bounds of Sustainable Diversion and seeing that the demands of the Environment and Community usage are met.

In compiling this submission I have kept points necessarily brief. Should amplification be required, I am happy to respond as required.

However, having viewed as much as I can within the limits of an individual private citizen for whom the subject of MDBA is a small subset of demands on my time and life, I wish to implore that the subject of Flood Plain Harvesting (FPH) particularly as focused on the Northern Basin be considered as a wholistic component of the wider Murray Darling Basin as water from the Northern Basing (Darling) becomes a component of the Murray River between Wentworth and the Mouth.

The issue of “unapproved” Flood Plain Harvesting has persisted for many years. This has led to construction of large scale diversion and storage infrastructure under the guise of looming approval/licensing and manipulation. The issue of diversion during “first flush” events of early 2020 exemplifies the pressure brought to bear on regulators and with the totally unsatisfactory outcome of first flush events being diverted into off stream storage.

The points I make below are by their very nature, discrete points. I have numbered the points I wish to make.

### **1) Wholistic Approach**

It is my view that many of the problems faced in the MDB (including the Northern Basin) arise from the application of incremental change which seemingly do not individually trigger concerns or which are discounted as minor changes. However, it is the collective summation of a series of incremental change which in aggregate become significant.

In this sense consideration needs to be given to the flow relationship between the source and the mouth. It is more than considering some extraction in a certain area upstream of Menindee Lakes. The decision must be about maintaining connectivity and contiguity of significant overbank flows from source to mouth.

## **2) First Nation's People Cultural Needs**

Certain promises have been made in this regard, however, to date there is no evidence that these have eventuated. Recognition of Native rights has been an important part of the healing process and in my view has commenced a bridging of the gap. It is my view that resolution of this aspect be a precursor to any Flood Plain Harvesting Licensing.

## **3) The River in My Life**

Not dissimilar to 2) above, Non Native inhabitants also attach meaning to the river in perhaps a different context. To me the Murray Darling system is about:

- Supply of water and survival of mankind
- Maintenance of dependent eco systems
- Irrigation and Industrial use
- Recreational activity and lifestyle

In the sense of the points above, I have utilised aspects of each point above and appreciate that it is the collective of each of these points existing in balance.

As such, I wish to see that balance provided for.

## **4) How the System Works**

At the outset I will acknowledge that the overall Murray Darling System now exists in a manmade adaption of the scheme Nature provided. This is less so for the Northern Basin (Darling) due to there being no major stream storages. However, the significance of stream diversions and off stream storages has grown to be as significant as would be several large on stream storages.

It is certainly obvious to me that various proponents of various schemes are very selective about their particular needs and often present their case without thought and to the detriment of others (and in particular downstream users).

I will use an analogy to illustrate my point, most people use a flushing toilet for a very good reason. The Murray and Darling are no different and Nature and the natural system flows actually intended this. Flushing flows and continual connectivity are vital.

Development, Industry and irrigation contribute to a degraded water quality and salt input. Whilst salt interception projects and altered irrigation practices have assisted there is a natural tendency for salinity to increase as water travels from headwaters to the mouth.

In South Australia there are two major pump stations at Morgan and Mannum which provide for critical human needs and industry. For these stations to operate certain salinity requirements (EC) have to be met. Maintenance of Pool Levels and Water Quality is an essential requirement requiring flows and flushing.

From a life "on the River" it was certainly experience in my younger days (1960's and 1970's) that due to weather patterns and rainfall there would be a variability in flows. The point was that the Murray Murrumbidgee and Darling would wax and wane in flow individually from time to time. From the point of view of the Riverland it seemed that in these situations the Darling would supplement flows at times the Murray was in low flow.

From time to time, when climatic events conspired, we would see a high river or flush. These events would water the wetlands, improve fishing and bring on the “yabbies” and a little inconvenience.

In recent years (following the Broken Hill Pipeline) the need to maintain storage in Menindee Lakes no longer existed and many claim these were drained to allow water to evaporate in Lake Alexandrina. This viewpoint is an abject exercise in a failure to appreciate downstream needs in order to serve their local needs.

The Northern Basin always represented a flow input to South Australia. When this ceased in the last drought, significant issues occurred elsewhere in the system as without the Darling water the make-up had to pass the Barmah Choke resulting in excess river levels and denial of water entitlements to those users in order to deliver critical entitlements downstream and into South Australia.

I will not comment on the issues of the Lower Lakes in South Australia (again a manmade situation) specifically as I believe they are being used as a smokescreen to justify FPH in the Northern Basin. That is not to say that there are not issues, and that ultimately solutions need to be derived and changes made.

Flows from the Darling are an important part of the system and a connectivity from source to mouth needs to be maintained.

## **5) Sustainable Diversion Limits (SDL's)**

I believe that in relation to irrigation two cases of use exist:

### **Cropping:**

Given that cropping is weather dependent and there are wet/dry cycles of climate, an annual (fixed) allocation of water is somewhat of a misnomer. This touches on the typical structure of water licensing wherein there is an annual allocation charge and then a usage charge applied on top of this for the volume taken.

### **Permanent Plantings**

By their very nature such plantings take time to mature and once planted, need regular ongoing allocations of water, generally constant from year to year. A high degree of security applies to these water needs. The concept of an annual allocation charge and an additional usage charge fits this scenario quite well.

### **Discussion**

From my reading, I have been unable to find specific advice as to how provision to licence existing outstanding FPH will be made under already committed SDL limits.

I further point out an inconsistency I see with the use of SDL's where these appear to pivot about average long term limits instead of being adaptable to the actual year to year limits based on what water is available arising from climate variation and inflows year to year. I think this is a convenient sense of entitlement espoused by extractive user.

## **6) Carry Over Allocations**

I have always been of the view that carry over water was defined as water not used in a period that is needed in a subsequent period to complete a crop. The concept of more than a partial carryover is at odds with this, multiples of annual entitlement as carryover are little more than over-gorging of a reasonable entitlement.

As such for licensing of any additional Flood Plain Harvesting to be granted, I would expect this loophole of upto five times carryover to be closed.

In fact for the very nature of FPH being related to discrete events the argument for carryover, in my view, is irrelevant as there is no guarantee of a follow up event.

## **7) Flood Plains**

It should be noted that Flood Plains benefit from rainfall that actually falls on them and additionally any cross ground flows arising. Additionally once river levels overtop the banks this is considered the essence of FPH.

In effect in terms of the Flood Plain proper there may well be a triple effect from the combined sources. The effect of this in terms of the Environment are well known. These need to be allowed to occur frequently and in a natural setting (which cannot be fully replicated by artificial flows).

Alterations to channels and river banks have been conducted to alter Flood Plain flows into on farm/off stream storages. It is doubtful these have been constructed with approval and in full accord with legislation.

Whilst the natural fall of rain onto lands and cross land flows are a natural occurrence, the capture of FPH water constitutes an enrichment at the expense of other users.

Arising from the above, I would like to see a far more equitable distribution in that downstream users obtain an entitlement to water which would ordinarily have come their way.

## **8) Evaporation Losses**

The potential for large evaporation losses from shallow off stream storages is noted. My suggestion is that timing of takes be limited such that as much as possible water is not stored for unduly long periods prior to irrigation onto crops. This would have benefit in allowing this water (evaporation) to remain in stream where it may better benefit stream flows, connectivity and the environment.

## **9) Metering of Take**

As far as I have been able to determine (and this should be checked and clarified clearly) take is measured as what is extracted from the stream. Before any licences are issued for extraction it should be mandatory for real time measuring and observation installations to be in place and functioning. A checking and enforcement process and regime should also be part of this process.

There must be a significant consequence for a failure to comply which in my view should extend to consideration of restriction denial of future allocations, removal of extractive permissions altogether and very significant fines. The present system of paltry enforcement and fines provides little incentive to actually follow the regulations as the gain is always bigger than any punitive action by the regulators.

## **10) Sustainability**

Life in Australia revolves on a cyclic pattern often culminating in severe droughts followed by flooding. The environment prior to European settlement had adapted itself to such an existence.

Sadly it is my view that many problems we face environmentally are manmade. In this sense as a supposedly intelligent race capable of learning from our mistakes, we seem to stumble along in a form of adaptive greed.

To me it is very clear that humans need to find a balance in order to live with our Environment (water in this case).

To that end, in the case of water, we cannot take out more than what is put back in. To do differently (as has been tried) shows that this simply will not work.

## **11) Connectivity**

Maintaining connectivity in the Northern Basin is a different perspective to the Murray River where a system of Locks originally installed to enhance river navigation now provide a man made connectivity through maintaining pool heights.

This is not so easy in the Northern Basin certainly above Menindee Lakes. However, connectivity remains a huge facilitator of a better Environment and as a lifeline for river based communities.

As such I would like to see any permitted FPH conducted in a way which promotes connectivity.

## **12) Economic Analysis**

As part of deliberations, I implore the "Committee" to consider economic effects arising from the use of water for irrigation over the benefit of it remaining in the system and providing benefits to the environment and others downstream. It is my view that the argument gets conflated by the use of multipliers often manipulated to serve the purpose of the argument proponent. It is important that these factors are balanced in order that a realistic analysis can be made like for like.

## **13) Some Thoughts**

It has been my observation that in many cases water allocations are being based on predicted inflows. Arising from this has been the over allocation of available water leading to shortages and inability to maintain stream connectivity. Appreciating that modelling is conducted and has some scientific background and applicability, I make the following points:

- Perhaps a one size fits all allocation scheme is inappropriate noting that different crops require delivery of water at different times
- Only water actually present in the system (noting points re timing of need/use above) should be allocated.
- If future yields are being determined on the basis of modelling, there needs to be provision for such modelling to be adjusted according to actual inflows and weather events.
- At Point 5) above the concept of different classes of security has been raised (in very broad detail). It is my opinion that perhaps the costs associated with the Entitlement Purchase upfront and the Annual Entitlement Fee impose financial constraint and commitment on potential users that generates an expectation of an entitlement to that water. This is acceptable practice, however, when such water is only intermittently available due to infrequent stream flows or flood events the question must be asked whether such outlays are the best way of obtaining such water. As a point of discussion, would it be better to eliminate the entitlement costs and replace these with a higher charge for water taken

under FPH. In this way users would not be penalized by upfront fees that are paid whilst generating no income and an expectation to get something for funds outlaid would be removed.

- In terms of conceding to allow some FPH, I believe that a far more robust algorithm be used to calculate flow points at which harvesting can commence such that overbank events occur at a reasonable natural frequency and in a way that maintains downstream connectivity and flows.
- The issue of decreased inflows being observed needs to be defined as to whether this is due to climate factors alone or whether it is a product of hidden capture of inflows.

Thank you for considering my submission.

Peter Gill

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