Droplet No. 20 **13th April 2012**

Droplets explore ideas and propositions, which if developed further, might improve water use. They develop ideas and search for fundamental concepts and building blocks that one might consider if not constrained by prior decisions.

Which is better – The Existing or Proposed Administrative Arrangements for the MDB Basin?

"Le bon Dieu est dans le detail." Gustave Flaubert (1821-80)

In 2007, the Australian Government decided to totally recast the way the Murray Darling Basin's water would be managed and passed a Water Act 2007. This Act establishes a Murray Darling Basin Authority and requires it, among many other things, to prepare a Murray Darling Basin Plan. At the time the Act was being drafted, the architects of the Act decided that the Murray Darling Basin Plan would come into effect only *after* the Basin's allocation problems had been fixed. The Act sets out a suite of administrative arrangements to be used while the "gap" between the current and proposed limit on water use is closed.

The Murray Darling Basin Authority has now released a draft Murray Darling Basin Plan and is seeking comments on ways to improve it. The Proposed Plan has two functions. The first function is to define the size of the "gap" to be closed and when this "gap" must be closed by. Ministers have agreed that the gap will be closed – one way or other -- by 1st July 2019.[i] The Plan's second function is to set up a suite of administrative arrangements that will come into effect on 1st July 2019.

The administrative arrangements to apply until the "gap" is closed – by the way – are very good. During the seven years between now and 2019, no-one is suggesting that these arrangements will not work well. In fact, they appear to be consistent with world's best practice. Australian water managers have much to be proud of.

Put arguments about the size of the gap and speed of closure to one side. The Proposed Plan is 210 pages long. There is a lot of detail. It heralds the introduction of a totally new suite of administrative arrangements for the Basin.

Are administrative arrangements in the "Proposed Plan" better than the existing arrangements? If they are not, then why should the administrative arrangements in the proposed Plan be adopted? Is there devil in the detail that those worrying about the gap have forgotten to check?

To answer the above questions, one needs to compare the administrative arrangements in the "Proposed Plan" with those being used today – and get one's head around the Water Act's 500+ pages of legislation.

To assist those interested in checking more of the detail, a series of endnotes with extracts from the Act and the Proposed Basin Plan are attached to this droplet.

1. Defining how much water can be used

Under current arrangements, the volumetric limit on the amount of water that can be diverted from the River for consumptive purposes is defined by placing a limit on the total amount of surface water that may be diverted by users in each part of the Basin. Known as the "cap," this limit includes all water entitlements held for the environment by bodies like the Commonwealth Environmental Water Holder.[ii]

A region's "cap" is calculated using models[iii] that adjust for changes in development and other conditions since 1993/94. Note that the models used include consideration of climatic conditions. Adjustments for variability and change – if it has occurred – must be made.[iv]

Under the Proposed Plan, however, the option of using a formula (a model) to adjust for climate change, etc is rejected - even though section 22 of the Water Act requires the Plan deal with the "the effects of climate change."[v] The current Murray Darling Basin "cap" is replaced with a new framework that defines Sustainable Diversion Limits for each of the Basin's water resources.

The new Sustainable Diversion Limit framework is more simplistic than those used currently to define the "cap" for each region. Instead of retaining a formula (a model) to adjust for change, the Authority has opted for a fixed number. The fact that the proposed new Sustainable Diversion Limit framework does not adjust for annual variability (weather) is, to say the least, surprising.[vi] One would expect the Proposed Plan to require sustainable diversion limits to adjust automatically both for climate change and for annual variability![vii]

2. Risk assignment between consumption and the environment

Under the original Murray Darling Basin Agreement, almost all the downside risks of climate change were assigned to the environment. Recognising the folly of this approach, the National Water Initiative requires governments to give the environment the same degree of security as all other entitlement holders. Recognised and admired around the world as a pragmatic way to solve a difficult problem, the approach of buying water for the environment and investing in savings projects that secure water entitlements is

working and giving the environment the same degree of security as that given to irrigators. This is being achieved by transferring entitlements to the environment but not changing the way they are defined.

Under the Proposed Plan, however, all "held" environmental water is defined as being outside the sustainable diversion limit.[viii] Irrigators are once again to be protected at the expense of the environment – a short-term strategy with seriously adverse long-term risks associated with it. The pro-rata sharing arrangement that Australian Governments have been building over most of the last decade is replaced with a return to the old arrangement that caused many of the Basin's problems to emerge!

When environmental water entitlements are "held" inside the limit, a sharing arrangement is put in place. When an entitlement is moved outside the sustainable diversion limit, those who hold entitlements inside the limit are protected at the expense of those outside the limit. From a risk-management perspective, this means that the administrative arrangements underpinning the Proposed Basin Plan are worse than the current arrangements.

The Authority could have decided to keep to the existing way of defining the limit and opted to improve the sharing arrangement that governments have been building over the last few years. To do this, they would have had to place a limit on the total amount of water entitlements that may be issued in a region and then define the minimum proportion of these entitlements that must be held in the environment's interest.[ix] Instead, however, the Authority has chosen to slide back to the flawed arrangement that governments have spent most of the last decade trying to fix.[x] Puzzling!

3. Adaptive management

In the process of developing the Basin Plan, the Authority has stressed the importance of taking an adaptive approach. The current suite of administrative arrangements are very adaptive, water for the environment can be sourced from any location or any water user interested in negotiating with the Government. The portfolio of water held in the environment's interest can be re-arranged and local knowledge used to find better ways to deliver environmental outcomes.

Once the Proposed Plan comes into effect, however, this arrangement stops. The only way to change the limit on the amount of water that can be used for consumptive purposes is to amend the Basin Plan. To say the least, amending the Basin Plan is politically difficult and time consuming. In practice, the Plan is locked in stone. It can be changed only through a very complex and cumbersome administrative process. During a review of the Plan, local opportunities like, for example, consideration of the opportunity to increase a Sustainable Diversion Limit in return for investment in a new wetland control structure would be, in all probability, drowned out by the need to consider bigger issues![xi]

To retain the advantages that come from localism and adaptation, a register along the lines set out in Droplet 19 is needed. If localism is important then it would be better to leave the current administrative arrangements in place – at least until the capacity of the new Sustainable Diversion Limit framework and the raft of policy reforms associated with it have been tested.

4. Trading environmental water

Under current arrangements, any custodian of environmental water, including the Commonwealth Environmental Water Holder, can sell water allocations to irrigators.[xii] When they do this, the total amount of water used for consumptive purposes increases but the cap stays the same. The system works elegantly.

Under the Proposed Plan and, as already explained, a new approach is introduced. Sustainable Diversion Limits are calculated on the assumption that no sale of environmental water will occur and then a regulatory patch is introduced to allow this water to be traded.[xiii] This rather strange arrangement appears to have been included in the Proposed Plan in an effort to get around some legislative impediments that arise because of the way the Authority has chosen to define sustainable diversion limits. If the Authority had not included this regulatory patch in the Proposed Plan and an environmental water holder chose to sell some environmental water, this water would jump immediately from outside to inside the Sustainable Diversion Limit and could cause the State, unwittingly, to breach a region's sustainable diversion limit. That is, the Commonwealth or any Non-Government Organisation that holds environmental water could cause a State to breach its responsibility to comply with the limit.[xiv]

Note also that, if it was not for the presence of this regulatory patch, States would need to reduce allocations by the amount that they expected environmental water holders to sell. That is, the sale of environmental water to consumptive water users would be nothing more than a tax on them![xv]

When looked at objectively, the need for this regulatory patch reveals how flawed the Authority's choice of the method to define sustainable diversion limits is. When the Act and Proposed Plan are read together, we come to the conclusion that this arrangement will be judged to be inconsistent with the powers given to the Authority under the Water Act. Expect the courts to force an amendment. The Act requires that the best available scientific knowledge be used.[xvi] Leaving the possible sale of environmental water out

of the models used to estimate a Sustainable Diversion Limit and then allow such sales to occur is far short of best scientific practice. In order to get around this problem, Sustainable Diversion Limits need to be defined in a manner that keeps environmental water within the limit on the total amount of water that may be diverted from a river.

5. Enforcing the limit on consumptive use

Under current arrangements, the "cap" on water use in each region is defined using a cumulative credit and debit system designed to stop the average amount of water used in a region from rising above a pre-defined limit.[xvii] Whenever auditors find that the cumulative amount of water being diverted has risen to more than 20% above a region's cap, the State responsible for allowing the cap to be breached is required to explain why the breach has occurred; what actions are being taken to rectify the breach and how long it will take to bring the cap register back into balance.

In the Proposed Plan, there is no change to the 20% rule but a new enforcement mechanism is introduced. When a Sustainable Diversion Limit is breached by more than 20%, the Commonwealth Minister can decide to "step-in" and take over administration of a water resource region.[xviii] Alternatively if the offending State and the Commonwealth agree, a mediator can be appointed. [xix] Conceptually, this is an improvement over current arrangements. The Commonwealth's capacity to take over administration of one but not all water resource regions in a State must be questioned. In practice, one would be surprised if this ever happened.

A better solution would be amend the Water Act so that the Commonwealth is required to buy back sufficient water allocations to prevent the breach from occurring and send the bill to the breaching State.

The Proposed Basin Plan could recommend that the Act be amended along these lines. There is no reason why an independent Authority could not use the Proposed Plan to recommend changes to the Act.[xx]

6. Revising the limit on diversion for consumptive purposes

Under current arrangements, the amount of water available for consumptive use can be changed by purchasing water entitlements and investing in infrastructure to achieve water savings -- there is no compulsion on any water user to give up any water. Changes are negotiated!

Once the Proposed Plan comes into effect, however, the rules of the game change and, as pointed out above, the Plan becomes very difficult to change.

When it comes to changing the amount of water that may be allocated to consumptive water users, the Water Act expressly rules out compulsory acquisition. A different, more subtle, arrangement is introduced. After 2019, a sustainable diversion limit can be lowered only by amending the Plan. The Act then requires that entitlement holders be paid financial compensation for any reduction in the value of the reliability of their entitlement less 3%.[xxi] Use of the internationally-acclaimed market-based approach to the resolution of any allocation problems that remain or emerge after 2019 is ruled out. Once again, an internationally-acclaimed practice is aborted.

7. Managing periods of low flow

The last decade alerted Australia to the need to plan carefully for dry times. As a result, the Water Act establishes a special set of water allocation rules that come into play whenever there is not enough water to guarantee conveyance to Wellington in South Australia (Tier 2 conditions) and whenever there is not enough water to meet critical human water needs (Tier 3 conditions).[xxii]

The Proposed Plan makes no change to the Tier 2 and Tier 3 arrangements. In fact, because of the change in the way environmental water is accounted for, when compared with the arrangements that will apply on 30th June 2019, the Proposed Plan appears to increase the likelihood of entering Tier 2 or Tier 3 conditions.[xxiii]

8. Interception of water by trees and capture of overland flow

Under the Proposed Plan, States will be required to adjust for the adverse effects on water availability of increased forestry, increases in farm-dam interception and increases in the capture of overland flows.[xxiv] In this aspect, the Proposed Plan is much better than the existing administrative arrangement. As the cap is defined by reference to the state of development in 1993/94, one would expect the independent Auditors responsible for assessing compliance with the cap to include these effects in the models used to assess cap compliance. So far, however, they have chosen not to do this.

Missing from the Proposed Plan is a requirement for the adverse interception effects of biodiversity plantings to be fully accounted for.[xxv] Under the Proposed Plan, if the planting is primarily for biodiversity reasons, no offset is required, if it is "primarily" to gain access to carbon credits then offset is required.

9. Ground-surface water interaction

Concerned about Australia's failure to manage interactions between surface and groundwater systems, the National Water Commission recommended that the onus of proof on connection be reversed. In effect, this means that, unless a groundwater resource can be shown to *not be connected to a river system*, it should be continue to be considered a part of the surface resource and managed accordingly. This either has not happened or the evidence has not been made publicly available. Many people are questioning the wisdom of this decision.[xxvi] Putting these numbers to one side, the Proposed Plan's extension of the management regime to include groundwater use appears to be one of the few features of the Proposed Plan that is superior to current administrative arrangements.

10. Trading Rules plus the Salinity and Environmental Watering Plans

The last feature of the Proposed Plan to consider is the function of the proposed

i) Charging and trading rules;
ii) The water quality and salinity management plan; and
iii) The environmental watering plan.

In each of these cases, the Act contains considerable detail. Development of trading rules is delegated to the Australian Competition and Consumer Commission and under the Act, the Minister may make charging and trading rules even if no Murray Darling Basin Plan exists. Similarly, arrangements for the management of salinity and water quality are well developed in the Murray Darling Basin Agreement. A Basin Plan is not needed to keep these functions alive.

The development of an environmental watering plan, however, is new. As the Commonwealth Environmental Water Holder is still in the process of acquiring water for the environment, and has little experience in managing this water, it is clear that an environmental watering plan is needed. Given the difficulty in amending this plan, it is expected that it will be necessary to leave out detail and stay with high level concepts and objectives. Given the Commonwealth's lack of administrative experience in the management of environmental water, one could argue that it would be much wiser to begin with an environmental watering plan that can be amended continuously. If this was done, then the environmental watering plan could focus on much more of the detail than the proposed arrangement allows. In short, the Basin may be better off with an informal rather than a formal environmental watering plan.

Where to from here?

Are the administrative rules in the Proposed Plan's better than those established through the Water Act 2007? Putting aside the debate about the volume of water needed to restore health to the Basin's rivers, aquifers and environment, the answer is "no." Switching from the existing administrative arrangements being used to manage the Basin's water resources to the administrative arrangements proposed for July 2019 would be a retrograde step. The existing arrangements are much better.

Is there a way forward? The answer is "yes". The Commonwealth can, and should, keep on securing water for the environment. Everyone knows that the Basin's ecosystems need more water. This part of the strategy is working. There is no need to stop progress.

In the meantime, the administrative rules in the Proposed Plan and the framework for managing the Basin's water need to be improved. Amongst other things, there is a need for the Authority to be able to define sustainable diversion limits in a manner that preserves the current risk-sharing model and continue to treats all entitlement holders – including the environment – equally. There is also a need to enable management to be as adaptive after 2019 as it is today. Irrigators may also be interested in the repeal of the compulsory reduction with partial compensation arrangements that come into play after 2019.

In short, the rules and framework in the Proposed Plan need to be better than current administrative arrangements. As presently drafted, this Droplet finds that the proposed administrative arrangements are worse than the current ones. We conclude that the Basin and all those people would be better off if the Commonwealth Government continued to close the gap by 2019 and insisted on a major rewrite of the Proposed Plan's administrative arrangements.

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END NOTES

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[i] See Chapter 9 of the Proposed Basin Plan at section 9.13 (2).

[ii] Under existing administrative arrangements, there is no difference between water entitlements held for the environment and water held for any other purpose. This enables the gap to be closed by buying water for the environment and investing in savings projects that enable some of the savings to be transferred to the Commonwealth Environmental Water Holder. Once a Basin Plan is in place, section 32 of the Water Act requires the authority to "identify and account for held environmental water."

[iii] See Schedule E of the Murray Darling Basin Agreement at section 2 defines the baseline conditions as those that applied at 30 June 1994 and section 11 which sets out the conditions for developing the analytical models to be used. The Proposed Basin Plan contains no similar set of requirements for the definition of Sustainable Diversion Limits.

[iv] Schedule E to the Agreement as documented in the Water Act establishes some of the 24 long-term diversion caps within the Basin to be adjusted (as often as annually) for climatic conditions. Indeed, caps in each State are based on maintaining diversions at either a numerical value (SA, ACT), or at a modelled baseline level of take. Adjustments for 'climatic conditions' in a water year (eg section 11 (5) of Schedule E to the Agreement), as presently interpreted, adjust only for changes in annual weather conditions. Changes in actual weather conditions will, however, automatically include any effects of climate change.

[v] Item 3 of Section 22 requires the Plan to deal with risks including "the risks to the availability of Basin water resources that arise from the following:

(a) the taking and use of water (including through interception activities);

(b) the effects of climate change;

(c) changes to land use;

(d) the limitations on the state of knowledge on the basis of which estimates about matters relating to Basin water resources are made.

[vi] Chapter 4 of the Plan (specifically section 4.02) identifies the risks to Basin water resources, including those arising from climate change and the other matters identified in item 3 of the table in section 22(1) of the Water Act. Section 4.03 (3) of the Proposed Basin Plan identifies strategies to be used to address these risks. For risks arising from climate change, significant strategies include definition of Sustainable Diversion Limits and the preparation of an Environmental Watering Plan, preparation of compliant Water Resource Plans, improving knowledge about Basin water resources including the impact of climate change.

Ten-year reviews of the Plan are required by the Water Act (section 50) and the Proposed Plan requires more frequent reviews. Indeed, section 6.07 of the Proposed Plan requires the adequacy of Sustainable Diversion Limits be re-assessed regularly. There is, however, no simple mechanism that enables an Sustainable Diversion Limit to be changed.

Once the baby has been thrown out with the bath water, it is very difficult to recover the baby several years later.

[vii] Section 23 (2) (c) of the Water Act states that the Authority may define a long-term average sustainable diversion limit for a Basin water resource in "in any other way that the Authority determines to be appropriate." We understand that the Authority has been advised, however, that it may not do this as parliament clearly expected it to follow the procedures set out in section 22. We understand that section 23 (2) (c) is there to enable exceptions to the guidance provided by Parliament and not as means to circumvent the extensive guidance parliament has provided on the most appropriate way do define sustainable diversion limits/

[viii] This has come about because the section 4 of the Water Act defines the "***environmentally sustainable level of take*** for a water resource means the level at which water can be taken from that water resource which, if exceeded, would compromise:

(a) key environmental assets of the water resource; or

(b) key ecosystem functions of the water resource; or

(c) the productive base of the water resource; or

(d) key environmental outcomes for the water resource."

This definition and in particular the word "compromise" means that once a plan is in place, any water held for environmental purposes cannot be held within a sustainable diversion limit. Prior to the Plan, a sharing arrangement is used to define how much water can be used for consumptive purposes. Once the plan comes into place, a sudden switch occurs and the regime reverts to a numerical limit on the volume that may be taken (See section 22 (1) Item 6).

[ix] Section 22 (2) says that

> "A long term average sustainable diversion limit for the Basin water resources, for the water resources of a particular water resource plan area or for a particular part of those water resources may be specified:
>
> (a) as a particular quantity of water per year; or
>
> (b) as a formula or other method that may be used to calculate a quantity of water per year; or
>
> (c) in any other way that the Authority determines to be appropriate."

[x] This could be done via Section 23 (2) (c) of the Act which allows Sustainable Diversion Limits to be defined "in any other way that the Authority determines to be appropriate." Alternatively the Act could be amendment to require the replacement of sustainable diversion limits with a definition of the maximum amount of water that could be held as an entitlement and provide guidance as to the minimum proportion of these entitlements that should be held for environmental purposes.

[xi] Details as to the processes required to amend the Basin Plan are set out in sections 45 to 49 of the Act. Even if the amendment only affects local people, all stakeholders, all Basin States and lots of Ministers have to be consulted. Once all of these processes have been completed, section 48 requires that the amendment must lie before both houses of the Commonwealth Parliament. Note that there is only one Plan. Thereafter, the Plan for the Basin is amended. There is no provision to replace the Plan with a new one.

[xii] Section 106 allows the Commonwealth Environmental Water Holder to sell environmental water to other water users when this water is not required in order to deliver agreed environmental outcomes. Section 107 prevents the Minister from directing that environmental water be sold.

[xiii] Section 6.13 of the Proposed Plan states that

> "There is non-compliance with a long-term annual diversion limit for an SDL resource unit in a water accounting period if:
>
> (a) the cumulative balance for an SDL resource unit, *adjusted to account for any disposal or acquisition of held environmental water,* is a debit amount equal to or greater than 20% of the long-term annual diversion limit for the a Sustainable Diversion Limit resource unit; and
>
> (b) the Basin State does not have a reasonable excuse for the excess."

That is, the accounting mechanism for answering the question as to whether or not an SDL has been breached specifically excludes the sale or purchase of environmental water. Note, however, that by including this requirement the Proposed Plan makes it impossible to use purchases and/or sales to alter an SDL.

[xiv] 'Actual take' for consumptive use must be recorded under section 9.20 of the Proposed Basin Plan and recorded on the register of take (s6.12). Thus if held Environmental Water ends up being taken for consumptive use, then if the result is a cumulative debit exceeding 20%, this could cause a breach of the SDL.

[xv] The Basin Plan at section 9.17 (2) states that "In applying paragraph (1) (c), the water resource plan must account for the disposal and acquisition of held environment water separately and in a way that does not alter the determinations made in accordance with sections 9.14 and 9.15.

Sections 9.14 and 9.15 define how an SDL is to be defined but not how the amount to be taken is measured. The Commonwealth Environmental Water Holder has issued a discussion paper indicating that in their view they can sell environmental water allocations without impacting on the SDL accounting mechanism. We are not convinced but see http://www.environment.gov.au/ewater/publications/water-trade-discussion-paper.html

Paragraph (1) (c) of section 9.17 states that when accounting for water use account must be had for "trade of water access rights".

[xvi] Section 21(4) of the Water Act states that

"Subject to subsections (1), (2) and (3), the Authority and the Minister must, in exercising their powers and performing their functions under this Division:

(a) take into account the principles of ecologically sustainable development; and

(b) act on the basis of the best available scientific knowledge and socio economic analysis; and

(c) ... "

[xvii] See Schedule 1 to the Act which sets out the Murray Darling Basin Agreement. Schedule E to that agreement sets out the arrangements for calculating annual diversion targets. The 20% rule is at schedule E, section 16 (c) of Schedule 1 of the Act. Other, more stringent, rules apply. Under the Proposed Basin Plan, the only constraint is the 20% above the average long term sustainable diversion limit.

[xviii] Under section 6.13 of the Proposed Basin Plan, there is non-compliance if the cumulative balance for an SDL resource unit is a debit of 20% or more of the SDL and the State does not have a 'reasonable excuse'. A reasonable excuse can only be claimed if a State has provided a report showing the reason for the exceeding the 20% limit and detailing steps that will be taken to bring the account back within the 20% limit. The MDBA may undertake an audit in relation to compliance (including the claim of 'reasonable excuse'), at any time. The Authority could find, for instance, that there is no reasonable excuse, and therefore there is non-compliance.

[xix] See Sections 72 and 73 of the Act. The process begins with good faith negotiations. If these negotiations fail, a preliminary notice is issued and mediation can be proposed. If attempts to mediate fail, the Commonwealth Minister can then issue a final notice and proceed to step-in.

[xx] See Subdivision G of the Water Act that sets out a comprehensive review process for the Plan and implicitly the legislation that underpins it.

[xxi] Section 255 of the Act explicitly rules out the compulsory acquisition of a water entitlement. Division 4 of the Act sets out the procedures to be followed when a Sustainable Diversion Limit is reduced. Section 75 (3) explains how the 3% margin is to be calculated.

[xxii] Section 86D sets out the Tier 2 arrangements and section 86E the Tier 3 arrangements. In essence, Tier 2 arrangements deal with conditions when there is insufficient water to guarantee conveyance. Tier 3 arrangements deal with conditions when there is a risk that there may not be enough water to meet critical human needs.

[xxiii] The Water Act spells out explicitly, in sections 86D – 86E, all the things that the Basin Plan must specify in relation to Tiers 2 and 3. In the main, these relate to the triggers for moving between Tiers and establishing a Tier 2 reserves policy. The Plan is not empowered to specify anything else. Chapter 10 of the proposed Plan sets what will happen in Tier 2 and Tier 3 circumstances but this is simply a restatement of what has already been agreed in sections 131 – 134 of the Murray Darling Basin Agreement. Modifications to these arrangements are at the discretion of the Ministerial Council not the Murray Darling Basin Authority.

[xxiv] See section 20 (b), item 3 in Section 22 and subsequent subsections of that section.

[xxv] In section 1.07 of the Proposed Plan ***form of take is defined to*** mean

a) take from a watercourse;

b) take from a regulated river;

c) take by floodplain harvesting;

d) take by a runoff dam;

e) net take by a commercial plantation;

f) take from groundwater;

g) take under a basic right.

The definitions section of the Proposed Plan states that

> ***commercial plantation*** means an area of land on which perennial woody plants are planted primarily for commercial purposes (other than the production of food).
>
> Note: Some examples of commercial purposes are the production of timber, woodchip, oil or biofuel, or the commercial exploitation of the carbon sequestration capacity of the plants.

[xxvi] See for example, the Wentworth Group's report on ground-surface water connectivity.