GPSC5 Questions on Notice to Debbie Buller, President, MVFFA.

FIRST QUESTION FROM TRANSCRIPT:

Ms BULLER: I will take it on notice. Are you asking which one I would prefer?

The Hon. PAUL GREEN: Yes—the 4,000 gigalitres or the second one.

Ms BULLER: The second one is 6,000; is that right?

The Hon. PAUL GREEN: It is a 109-metre wall.

The Hon. MATTHEW MASON-COX: It is 2,000 gigalitres or 4,000 gigalitres.

Ms BULLER: Off the top of my head I would say to go for the one that delivers the best. Go for the bigger one. I will get back to you on that.

The Hon. PAUL GREEN: That is fine. Take that on notice.

Ms BULLER: I will look into that a bit more.

ANSWER:

I am aware this question will be answered by Paul Pierotti and the Griffith Business Chamber in some detail.

I have seen some of the information they have collected and believe I would only be doubling up if I also answered this question.

As per my original answer, even though we don't have the high level technical expertise, our organisation knows it is a good long term plan to use one of our best and most secure catchments to increase its capacity and flexibility in line with other measures such as en-route storages, surge regulators and improving/updating existing river infrastructure.

Increased storage capacity at Burrinjuck would have definitely been very useful for the Murrumbidgee Valley and the Lower Murray since the drought broke in 2010. It would also have been useful before the millennium drought, and likely facilitated more flexible storage options during the drought as the attached excel spreadsheet titled Dan BJ Outflow (Burrinjuck Flood History Since 1970) shows.

GPSC5 Questions on Notice to Debbie Buller, President, MVFFA.

SECOND QUESTION FROM TRANSCRIPT: FUTHER INFORMATION ABOUT WATER ALLOCATIONS, P 28 OF TRANSCRIPT

The Hon. MATTHEW MASON-COX: Just very quickly, for the record you mentioned the issue of allocations and the risk averse approach taken in that regard based on 2006 or 1902, which understandably perhaps from their perspective were situations where they have made mistakes in the past and makes them very risk averse. Two mistakes, that is true. How would you work the allocations out? What would you use as your base case?

Ms BULLER: I could probably spend two hours on that as well—

The Hon. MATTHEW MASON-COX: Don't!

The ACTING CHAIR: You can take it on notice.

PLEASE NOTE: I DID PARTLY ANSWER THIS QUESTION AT THE HEARING:

I have edited/updated the original answer plus added extra information for this question on notice.

Ms BULLER: I can take it on notice, but I want to give you a couple of sound bites. What you need to understand is: who are the paying customers for that water? They have seasonal windows. If we do not have a clear, workable indication by September of what is going on in our catchment and a clearly articulated, sensibly conservative indication of what is likely going to happen, it gets very difficult for us, and people will start making difficult and unproductive decisions like: "It looks too risky. I can't be bothered. It's all too hard. I hate these people. I'm just going to sell my water."

That is really bad for our area because it means those people have opted out. They have taken the money – you can't blame them; they are allowed to – but they are not producing and no longer contributing to the local economy.

Then you have people like our family, who have to put ourselves under quite a lot of extra risk to buy up water on the temporary trade because we are not being allocated, or able to gain timely access to our own entitlement to back up what we have been put here to do, which is to produce food and fibre. There is a risk averse mindset operating in the various management entities that results in shifting all the financial risk of delivery onto the paying customers.

GPSC5 Questions on Notice to Debbie Buller, President, MVFFA.

I think the other sad part is that they now make decisions in October- November when the catchment looks nothing like it did in 1902 or 2006. There is actually no way on this earth that the catchment is going to suddenly revert in October, to something that happened in 1902 or 2006, because the dams are fuller, the creeks are running and everything is happening. They do not need to do that. By October-November they will already know that 2006 and/or 1902 is not about to repeat itself. It is not possible. The probability is less than zero.

FURTHER INFORMATION FOR THE COMMITTEE:

As further information to my original answer as more was asked for:

- I am attaching the AWD information from Sept 2013, Oct 2014 as well as the announcement in our local paper in Sept 1983.
- I am also attaching the latest outlook information we have received from DPIWater.

What you will clearly notice is in 1983 the governing entity (WRC) had a clear idea of paying customers needs and used predictive inflows as their guide to allocations. 1983 was the year following one of the most severe seasonal droughts we had experienced since the building of the storage and regulatory systems (1982). While still being responsibly conservative, they were able to give their GS customers a clear indication of the season's allocations in time for their customers to make decisions about their annual cropping programs.

Compare the 1983 announcement with the 2013 announcement, which was actually the season after some very severe flooding in the system (2012). All decisions are made to protect the management entities, facilitate 100% risk averse behaviour and shift all the financial risk of delivery onto the paying customers. As per the table in my original submission, we did not receive our full allocation until Dec 2013 which is well past the time the paying customers have sown their Summer crops.

Also, look at the most recent documents, particularly the footnotes and explanations which reveal the 100% risk averse behaviour while we are actually looking at an extraordinarily wet catchment right now.

GPSC5 Questions on Notice to Debbie Buller, President, MVFFA.

Considering that using a responsibly conservative approach with predictive inflows (as opposed to the current risk averse approach) has only ever been incorrect twice in almost 100 years, it was quite clearly a better approach than the current use of LIS figures from either 2006 or 1902. So far, since taking the current approach, the system has been in surplus three times and yet the governing entities can't see their way clear to recognise in Spring, that neither 2006 or 1902 could possibly recur in those seasons. As I said at the hearing, the catchment conditions would render the probability of the inflows suddenly reverting to 1902 or 2006 as actually less than zero!

Further, using data from 1902 is unrealistic and not creating good outcomes. I attach a further document which outlines this from MVFFA members' perspective.

BURRINJUCK FLOOD HISTORY SINCE 1970

Itern	Date	Peak Outflow (GL/d)
1	23-Sep-70	34
2	11-Dec-70	17
3	7-Feb-71	44
4	11-Feb-71	113
5	5-Nov-73	34
6	11-Jan-74	20
7	12-Apr-74	73
8	27-May-74	59
9	18-Jul-74	32
10	29-Aug-74	393
11	5-Sep-74	66
12	18-Oct-74	37
13	23-Jun-75	91
14	26-Jun-75	110
15	13-Jul-75	66
16	30-Sep-75	15
17	25-Oct-75	105
18	17-Oct-76	184
19	22-Mar-78	0
20	3-Jun-78	0
21	16-Jun-78	0
22	21-Jun-78	20
23	6-Jul-78	17
24	5-Sep-78	41
25	9-Sep-78	80
26	22-Jul-81	0
27	26-Aug-83	0
28	7-Dec-83	20
29	16-Jan-84	20
30	27-Jan-84	60
31	29-Jul-84	70
32 -	29-Sep-85	26
33	20-Nov-86	50
34	7-Jul-88 -	
35	15-Mar-89	0
36	1-Apr-89	137
37	4-Apr-89	120
38	10-Apr-89	113
39	13-Apr-89	110
40	11-Jul-91	214
41	8-Dec-95	30
42	1-Oct-96	46

43	3-Dec-10	185
44	4-Mar-12	247
45	2-Sep-16	39
46	10-Sep-16	31
47	19-Sep-16	34
48	30-Sep-16	38

Department of Primary Industries
Office of Water

Media Release

Monday, 15 September 2014

Small improvement for Murray and Murrumbidgee general security water allocations

Acting Deputy Director General, Water, Michael Bullen, today announced an increase to the water allocation for general security users in both the NSW Murray and Murrumbidgee valleys.

The NSW Murray general security water allocation will increase by 8 percent to 28 percent of entitlement, while the Murrumbidgee general security allocation will increase by 4 percent to 34 percent of entitlement.

“Hume and Dartmouth storages are now at 74 percent and 95 percent of capacity respectively, while in the Murrumbidgee valley Burrinjuck Dam is now 84 percent of capacity and rising slightly, as is Blowering Dam now at 72 percent.”

Mr Bullen also reminded water users that the trade restriction across the Barmah Choke remained relaxed but was being reviewed monthly.

“Trade out of the Murrumbidgee Valley is at its limit and remains closed, as does trade to and from the Lower Darling because of limited resources in the Menindee Lakes System.

Additional information on *Available Water Determinations* can be found on the NSW Office of Water’s website at - **www.water.nsw.gov.au**

The following outlook has been updated with improved prospects for the allocations in the NSW Murray because of likely internal spills to NSW in the Murray valley storages.

Ends

Chances of Improvement

The chances of inflows being above historical minimums, and therefore the likelihood of improved allocations, are as follows:

	Forecast 1 December 2014 General Security Allocations		**Forecast 1 February 2015 General Security Allocations**	
Potential Inflow Conditions #	NSW Murray	Murrumbidgee	NSW Murray	Murrumbidgee
Worst case (current allocation)	28%	34%	28%	34%
9 chances in 10 (very dry) (90%)	55%	36%	66%	36%
3 chances in 4 (dry) (75%)	100%	41%	100%	41%
1 chance in 2 (average) (50%)	100%	50%	100%	51%

Using all years of inflow records. ** Licence holders can add individual carryover to the relevant percentage

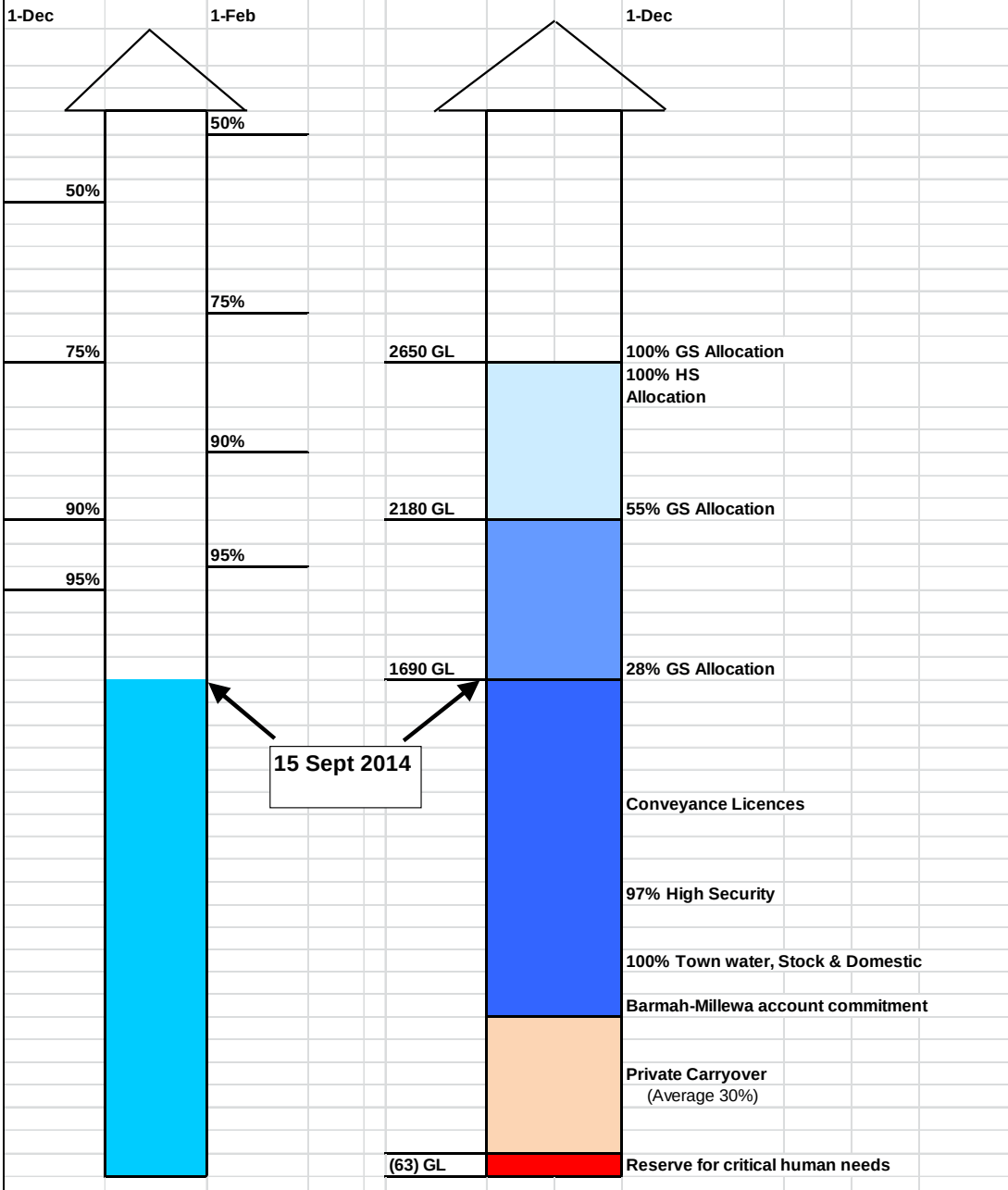
Media contact: Bunty Driver – 0407 403 234

Department of Primary Industries
Office of Water

Media Release

NSW Murray Valley Outlook

As at 15 September 2014



NOTE 1: The figures use to calculate this diagram are based on all years of record.
NOTE 2: The volumes above are indicative only and will change with further rainfall and inflows.
NOTE 3: The above figures are based on probabilities and do not guarantee allocations - they are to be used with caution.

Media contact: Bunty Driver – 0407 403 234

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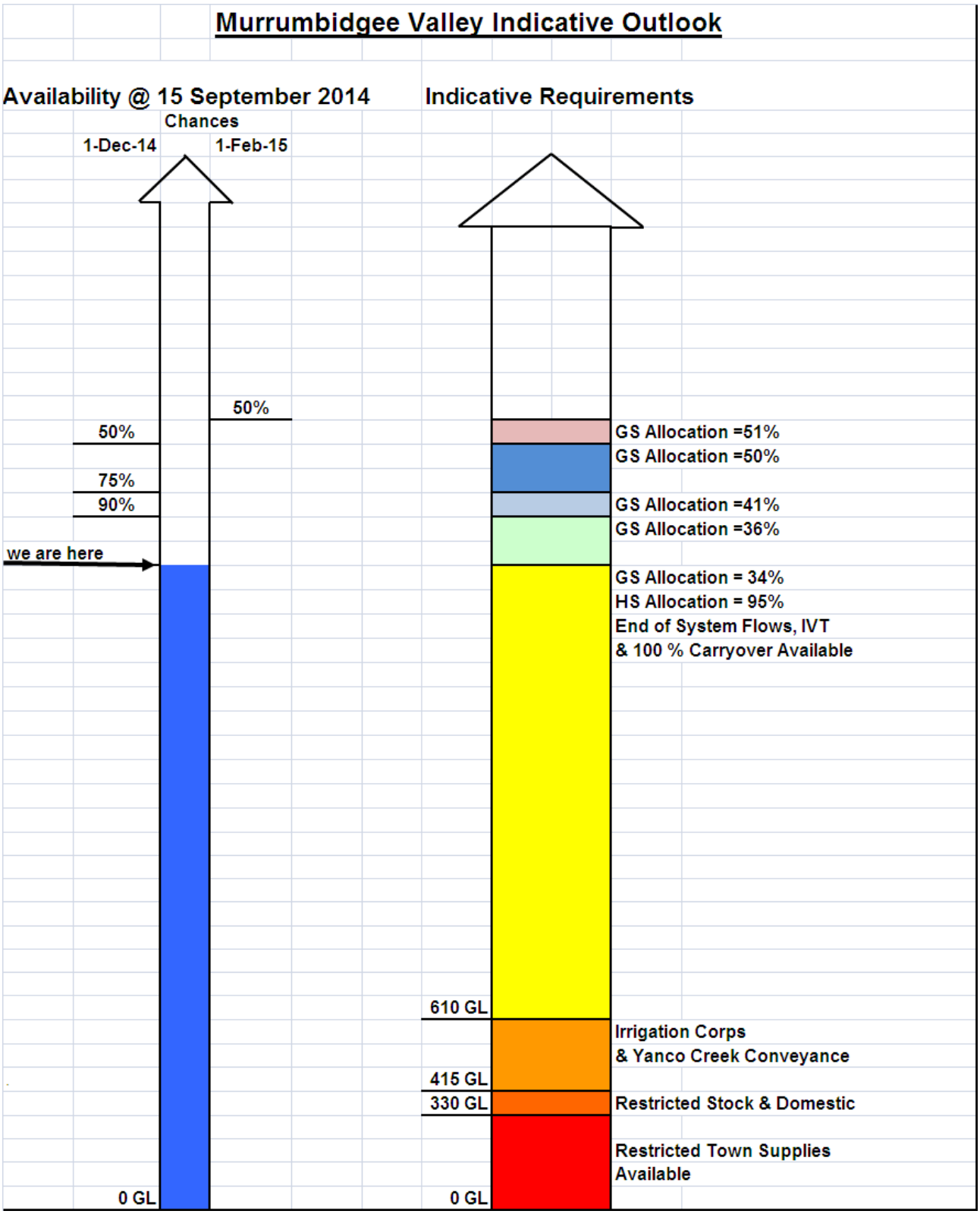

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Media Release

Media contact: Bunty Driver – 0407 403 234

The Irrigator. Friday September 16 1983

END IN SIGHT TO WATER ALLOTMENT CUTBACKS

Storages filling

WATER troubles seem to be over for Murrumbidgee Irrigation Area Farmers for the 1983-84 season.

The Minister for Water Resources, Mr Paul Whelan, announced yesterday that irrigators in the MIA were now guaranteed 75 per cent of their normal allocations.

This was a sharp rise on the previous guarantee of 65 per cent and there is a probability of a further lift in the allocation within a week as runoff continues to pour into the main Murrumbidgee Valley Storages.

Burrinjuck Dam is now holding 79 per cent of its capacity - a rise of two per cent in less than two days - while Blowering Dam is up one per cent in the same period to 40 per cent of maximum storage.

Mr Whelan said the general water supply outlook for the whole State had improved substantially in recent weeks.

"Two months ago, the situation in most of the major river valleys was critical," he said.

"But the position has continually improved and the intermittent rainfall over recent weeks has been most beneficial.

"The rain has satisfied the requirements of most irrigated crops and, as a result, reduced the demand for water from the storage dams.

"In addition, surplus flows exist in a number of rivers downstream from the dams.

"These surplus flows enable irrigators to take water without debit against their allocations."

Mr Whelan said that with the exception of the Menindee Lakes on the Darling River in the West of the State, none of the other major storages were full.

"But most are holding sufficient supplies to enable part allocations to be made available for irrigators for the coming summer.

"And the position is continuing to improve."

Mr Whelan said, however, that the position in the Hunter and Lachlan Valleys is still critical.

Cabinet meeting in Leeton

THE State Cabinet is to meet at Leeton on Tuesday, November 15, as part of its normal policy of meeting frequently in country centres.

Local Government Minister and Member for Murrumbidgee, Mr Lin Gordon, announced the proposed meeting late

Wine tax revolt

Department of Primary Industries
Office of Water

Media Release

Tuesday, 14 October 2014

Further improvement for NSW Murray and Murrumbidgee General security water allocations

Acting Deputy Director General, Water, Michael Bullen, today announced an increase to water allocations for general security users in the NSW Murray and Murrumbidgee valleys.

The NSW Murray general security allocation will increase by 5 percent to 39 percent of entitlement, while the Murrumbidgee general security allocation will increase by 3 percent to 40 percent of entitlement.

Mr Bullen said that this increase was the result of better than anticipated inflows in upper parts of both the Murray and Murrumbidgee Valleys.

The meteorological outlook continues to be for likely dry conditions this summer.

“Hume and Dartmouth storages are now at 77 percent and 93 percent of capacity respectively but falling as irrigation water is delivered.

“In the Murrumbidgee valley, Burrinjuck and Blowering dams are also falling, currently holding 79 percent and 64 percent of capacity respectively.”

In addition, the restriction on allocation trade **out** of the Murrumbidgee valley has been lifted.

“A reduction in the Murrumbidgee inter-valley transfer account is underway which means that allocation trade **out** of the Murrumbidgee valley can now resume,” Mr Bullen said.

Allocation trade into the Murrumbidgee continues unaffected and the trade restriction across the Barmah Choke in the Murray valley is still relaxed.

Trade to and from the Lower Darling remains closed due to the limited resources in Menindee Lakes.

Media contact: Bunty Driver – 0407 403 234

Chances of Improvement

The chances of inflows being above historical minimums, and therefore the likelihood of improved allocations, are as follows:

	Forecast 1 December General Security Allocations**		Forecast 1 February General Security Allocations**	
Potential Inflow Conditions #	NSW Murray	Murrumbidgee	NSW Murray	Murrumbidgee
Worst case	36%	37%	36%	37%
Current allocation	39%	40%	39%	40%
9 chances in 10 (very dry) (90%)	52%	41%	64%	43%
3 chances in 4 (dry) (75%)	67%	43%	100%	46%
1 chance in 2 (average) (50%)	100%	44%	100%	48%

Using all years of inflow records. ** Licence holders can add individual carryover to the relevant percentage.

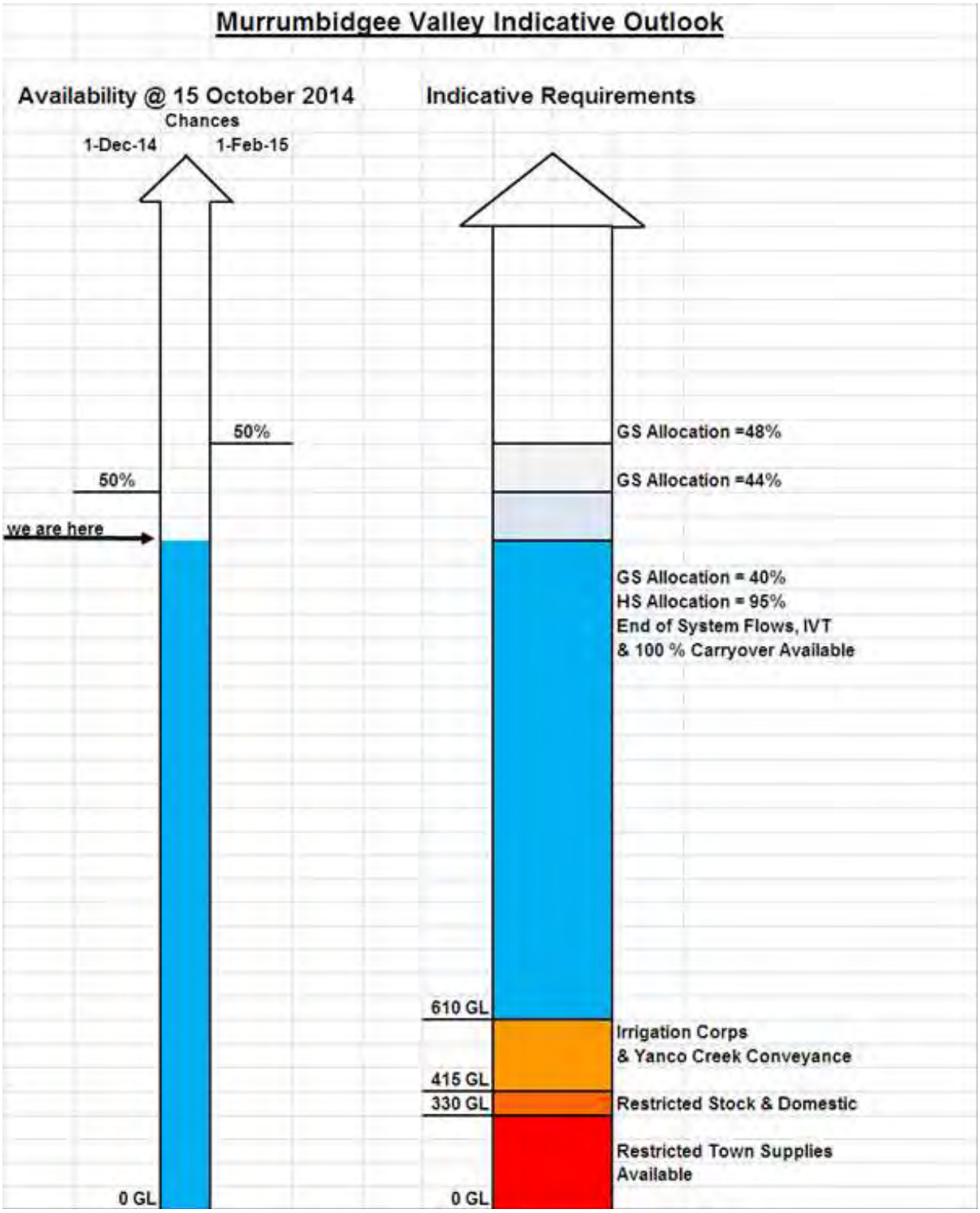
Additional information on *Available Water Determinations* can be found on the NSW Office of Water's website at - www.water.nsw.gov.au

Ends

Media contact: Bunty Driver – 0407 403 234

Department of Primary Industries
Office of Water

Media Release



Media contact: Bunty Driver – 0407 403 234

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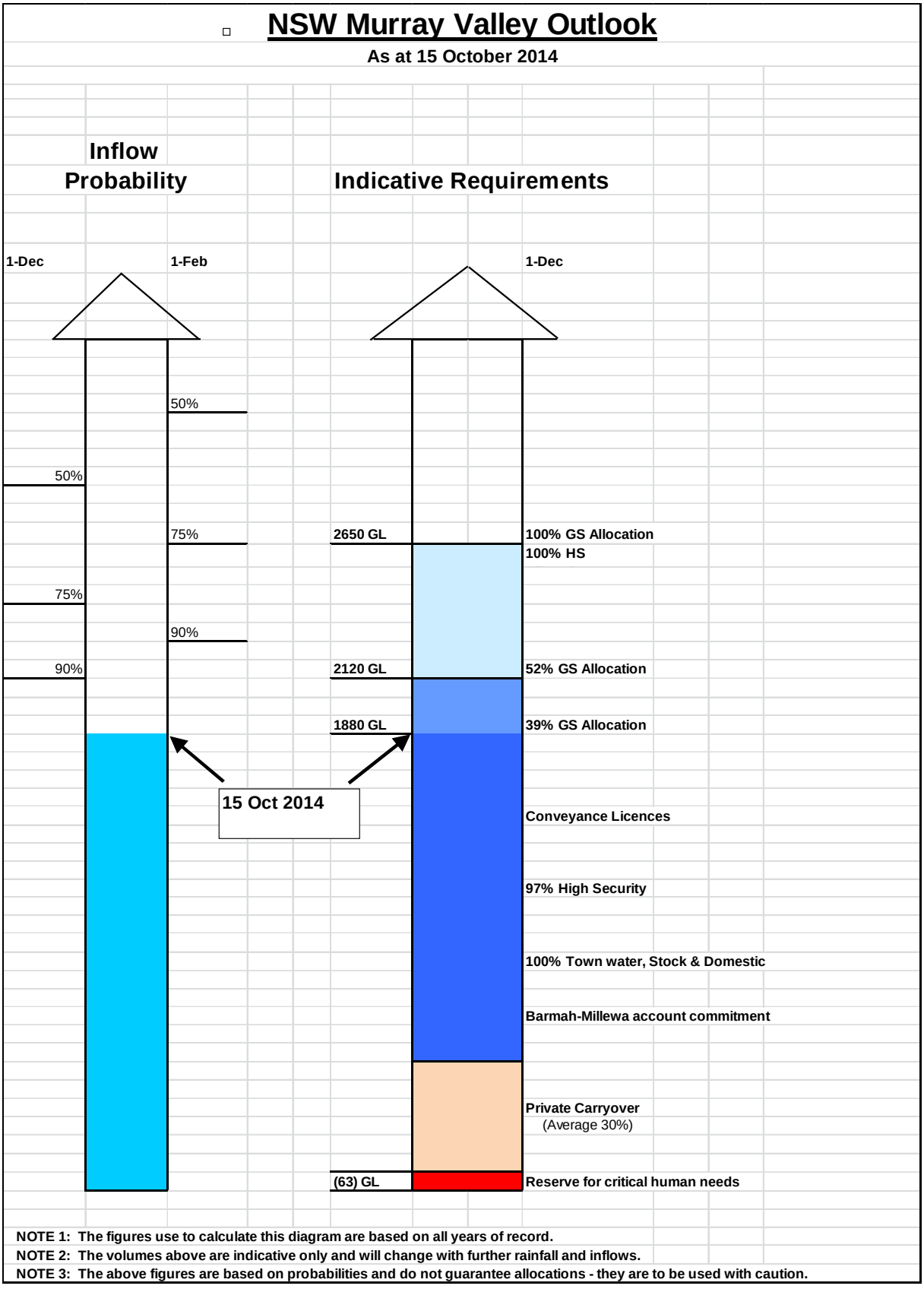
Media Release

NSW Murray Valley Outlook

As at 15 October 2014



NOTE 1: The figures use to calculate this diagram are based on all years of record.
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NOTE 3: The above figures are based on probabilities and do not guarantee allocations - they are to be used with caution.

Media contact: Bunty Driver – 0407 403 234

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Department of Primary Industries Water

Water Allocation Statement

15 March 2017

Murrumbidgee Valley

Preliminary water availability outlook for 2017-18

Key information

- This preliminary outlook for the likely 1 July 2017 water allocation conservatively assumes extreme dry conditions (99th percentile) for the remainder of the current (2016-17) water year. It also looks at possible wetter scenarios extending into 2017-18.
- The Murrumbidgee Valley has experienced very wet conditions this water year, with higher flows experienced in only 10 out of 100 years (10th percentile inflows). However, in the last two months conditions have been much drier with inflows well below the long-term average.
- It is difficult to reliably predict end-of-year carryover, as it is highly dependent on weather conditions over the next few months and individual decisions by water users. With the arrival of wet conditions late last year and full allocations, carryover is estimated to be close to the maximum allowable 30 per cent of entitlement, namely over 650,000 megalitres (ML).
- Access to inter-valley trade in 2017-18 is dependent on the balance of the IVT account. The 30 June balance will carry forward to 1 July and be made available for delivery in 2017-18.
- According to the Bureau of Meteorology, March is likely to be hotter and drier than average for the Murrumbidgee Valley, and these conditions are likely to continue through the remainder of autumn. The drier than average outlook likely stems from higher than normal air pressure forecasted across western and southern Australia, likely resulting in fewer rain-bearing systems crossing the region from west to east.
- The El Niño–Southern Oscillation (ENSO) indicator remains neutral. However, recent changes in both the tropical Pacific Ocean and atmosphere, and climate model outlooks surveyed by the Bureau, suggest that the likelihood of El Niño conditions forming in 2017 has risen to about 50 per cent. El Niño is often associated with below average winter–spring rainfall over eastern Australia and warmer than average winter–spring maximum temperatures over the southern half of Australia
- Once the commencing allocations are announced on 1 July 2017, regular assessments will be undertaken and allocation announcements made fortnightly on the 1st and 15th of each month, or next working day following, as required for the remainder of the water year.
- An update to this preliminary forecast of water availability for 2017-18 will be made on 15 May 2017.

Indicative allocations on 1 July 2017

- Full allocation can be expected for all towns, as well as domestic and stock access licences.
- Private carryover will be fully deliverable. At this early stage, it is estimated that the average carryover across the valley will be close to the maximum 30 per cent of entitlement.
- Murrumbidgee High Security access licences will receive an initial allocation of 95 per cent of entitlement, consistent with the Murrumbidgee regulated river water sharing plan.
- Under ‘extreme dry’ inflow conditions (99th percentile) through to the end of this (2016-17) water year, there will be 9 per cent commencing general security allocation on 1 July.

Media contact: James Muddle – 0407 103 507

- A 9 per cent allocation, together with 30 per cent carryover, means an average general security water availability on 1 July of 39 per cent of entitlement.
- Water will be allocated to conveyance licences, commensurate with the opening general security allocation.
- Supplementary access licence holders will receive a full allocation; however, as usual, diversion is only allowed during periods of announced supplementary access.
- Water in Environmental Water Allowances (EWA) accounts will be available in accordance with the rules of the water sharing plan.
- In the Murrumbidgee water source, general security and conveyance licences can carry over water up to a maximum of 30 per cent of entitlement, and the account limit (allocation plus carryover) is 100 per cent of entitlement.
- Murrumbidgee inter and intra valley trade will operate in accordance with existing procedures and protocols, particularly in relation to the inter-valley trade (IVT) account limits.
- Releases from headwater storages will be managed to maximise water availability and deliverability including equalising their risk of spill.

Chances of improvement

The chances of improved general security allocation based on different inflow conditions into 2017-18 are as follows:

Forecast general security allocation (per cent)#

Potential Inflow Conditions##	1 Sept 2017	1 Nov 2017
99 chances in 100 (extreme) (99%)	9	9
9 chances in 10 (very dry) (90%)	15	25
3 chances in 4 (dry) (75%)	21	35
1 chance in 2 (mean) (50%)	33	47*
1 chance in 4 (wet) (25%)^	44	50*

Multi-history modelling using all years on record.
^ The 2016-17 water year to date has experienced very wet conditions (10th percentile) due largely to spring floods.
# Assumes an average carryover of 30%.
* Under average and wetter conditions and elevated allocations, peak demand deliverability (Tumut channel capacity constraints) could become problematic. Monitoring for such conditions will be maintained to ensure early warning and appropriate action.

Combined LIS relevant documents for GPSC5 from Debbie's files.

1)

As you are probably aware NSW Office of Water* was directed by legislation to cease using the Lowest Inflow Sequence (LIS) figures from 2006 and use a pre-2004 figure (to match up with the still current, but considerably re interpreted, 2004 WSPs.)

We have only just received an answer to the question regarding which "next worse" inflow season NOW* is using for their LIS modelling, despite having asked at the NOW presentation in Griffith on 2nd June 2015.

The answer given is **1902/03**. The dams were not even built then! This appears to the MVFFA membership as unrealistic and highly questionable. Perhaps (with hindsight) the legislation should have also directed NOW to use a year that actually relates to the current regulated systems?

Wouldn't a more realistic date for the Murrumbidgee system be between 1968 (when Blowering Dam was opened) and 2004?

https://en.wikipedia.org/wiki/Blowering_Dam

…. or…**SURELY** no earlier than 1928 when Burrinjuck was opened?

https://en.wikipedia.org/wiki/Burrinjuck_Dam

We would assume the only available figures that NOW could possibly use to justify using 1902/03 would be old data re river levels taken at Gundagai, Wagga & Narrandera (Murrumbidgee) or Albury (Murray) and perhaps a few other towns that were on the rivers in 1902? Maybe there is old pre 1900 and pre-dam river level data from the locks on the Murray River further downstream near or in SA? None of these could sensibly reflect how our systems work now.

Places like Leeton, Griffith and Coleambally and hence one of NSW's most productive regions were not even up and running in 1902!

https://en.wikipedia.org/wiki/Murrumbidgee_Irrigation_Area

And for the Murray…. Wouldn't the dates encompassed here be a more realistic timeframe to use to inform LIS and AWDs?

https://en.wikipedia.org/wiki/Hume_Dam

https://en.wikipedia.org/?title=Dartmouth_Dam

https://en.wikipedia.org/wiki/Murray_Irrigation_Area

Those 1902 river levels would not be capable of sensibly or productively informing current circumstances and if NOW is going to keep using them to overlay decisions about AWDs it will certainly not allow your NSW MDB producers to maximise their contribution to NSW!

We suggest, with respect, that NOW need to be asked how they could determine a realistic Lowest Inflow Sequence for dams and downstream regulated and unregulated systems from the 1902/03 data?

Please note: NSW Office of Water (NOW) has been rebadged as DPIWater since this document was produced in June 2015

2)

Lowest inflow sequence for allocation

From DPI Water's own site and published papers it is clear that there is insufficient robust or realistic data available to judge 1902/03 as the next worse *'assumed inflows'* or *'lowest inflow sequence'* in the Murrumbidgee Valley. Apart from the fact that there were no major storages on our system then and places like the MIA didn't even exist, the only gauges that were operating in the old unregulated system on the Murrumbidgee, below where the major storages are now, were gauges 410004, 410022 and 410025 and only one of those was operable in 1902/03. It may be an interesting statistical exercise to extrapolate from the Gundagai gauge but it can't possibly reflect the reality of our modern regulated system. This is further evidenced by the fact that DPI Water claims that using 1902/03 instead of 2006/07 as the next worse inflow sequence actually delivers a 3% early allocation improvement when we all know that the rivers ran dry in the Federation drought sequence. The current regulatory systems allowed the rivers to retain water all the way to South Australia in the 2006/07 inflow sequence & supply critical needs.

Over reacting to the very unfortunate circumstances of 2006/07 is no better for your paying customers than the situation the department claims it wants to avoid. The 'claw back' that is consistently referred to has occurred in that manner only once in the long history of State water regulation.

While it was very unfortunate for all involved, the current mindset that plans to avoid this unique situation ever occurring again is quite clearly creating negative and counterproductive impacts for your producers. Further, we don't believe it is actually possible to sue the State Government for a drought sequence; therefore the government isn't really exposed to any legal risk in the highly unlikely event that it might happen again!

If some genuine attention was placed on the stated intents then perhaps it would be possible to relax and move away from the current mindset that overlays the statistical *'assumed inflows'* or the *'Lowest Inflow Sequence'* over AWD announcements. The risk averse behaviour at present is not gaining positive, measureable outcomes socially, economically or environmentally. The only outcome seems to be based on politics or protectionism and not practical management principles that would share a vision for genuine triple bottom line outcomes.

Glossary of acronyms:

RAR: Required Annual Release

AWD: Available Water Determination (formerly known as water allocation)

LIS: Lowest Inflow Sequence

DISV: Driest Inflow Sequence Volume (A similar term to LIS but used by SH (snowy Hydro))

EWA: Environmental Watering Account

WSP: Water Sharing Plan.

NSWIC: NSW Irrigators Council

NSWFA: NSW Farmers Association.

GS: General Security

WE: Water Entitlement.

MDBP: Murray Darling Basin Plan…also MDBA: Murray Darling Basin Authority.

NOW: NSW Office of Water

OEH: Office of Environment and Heritage

SWC: State Water Corporation…recently conglomerated with Sydney Water and now called Water NSW

Summary of main concerns and answers to questions:

1) The most important month as far as decisions related to irrigation is concerned is SEPTEMBER. The 2 most important seasons in our calendars are autumn and spring.
2) There are copious amounts of contradictory information but it is not particularly transparent and doesn't help to answer the important questions that are being asked by GS paying customers.
3) NOW sticks doggedly to rules and regulations when it suits them and then loosely interprets rules and regulations when it suits them.
4) Everything seems to hinge on the circumstances of OCT/NOV 2006 but it is not clear why that is so very, very important.
5) We need the NSW State Government to make sure that regional communities are protected from any further negative impacts from the implementation of the MDBP.
6) The water accounting year and water accounting in general needs to be properly and transparently aligned.
7) All water delivery authorities need to be incentivised to actually deliver water in a productive timeframe to their GS customers.
8) NSW 'environmental watering' and NSW EWA's need to be audited and then rationalised and transparently reported.
9) Significant regional rainfall events in NSW need to be recognised as achieved NSW environmental watering outcomes to avoid unnecessary wasting of stored water resources.
10) NOW needs to understand that a significant portion of their paying customers are beholden to specific seasonal conditions and attempt to work with them on that basis.
11) The issue of "voluntary contributions" needs to addressed and this water reinstated to irrigators with fixed fees reimbursed.