

## Webinar: 2020/21 Irrigation Season – diversify your water holdings

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# Presentation outline

## Part 1 – 2020/21 water year and beyond - 50 minutes

- Market update and outlook to remainder of 2020/21 – what has changed since the May webinar?
- Preparing and planning for the rest of the 2020/21 water year
- Beyond 2020/21 - a practical look at interstate trading options and diversification
- Q&A

## Part 2 - Trading water – how does it happen in practice? Guest speakers – 1hr 10 minutes

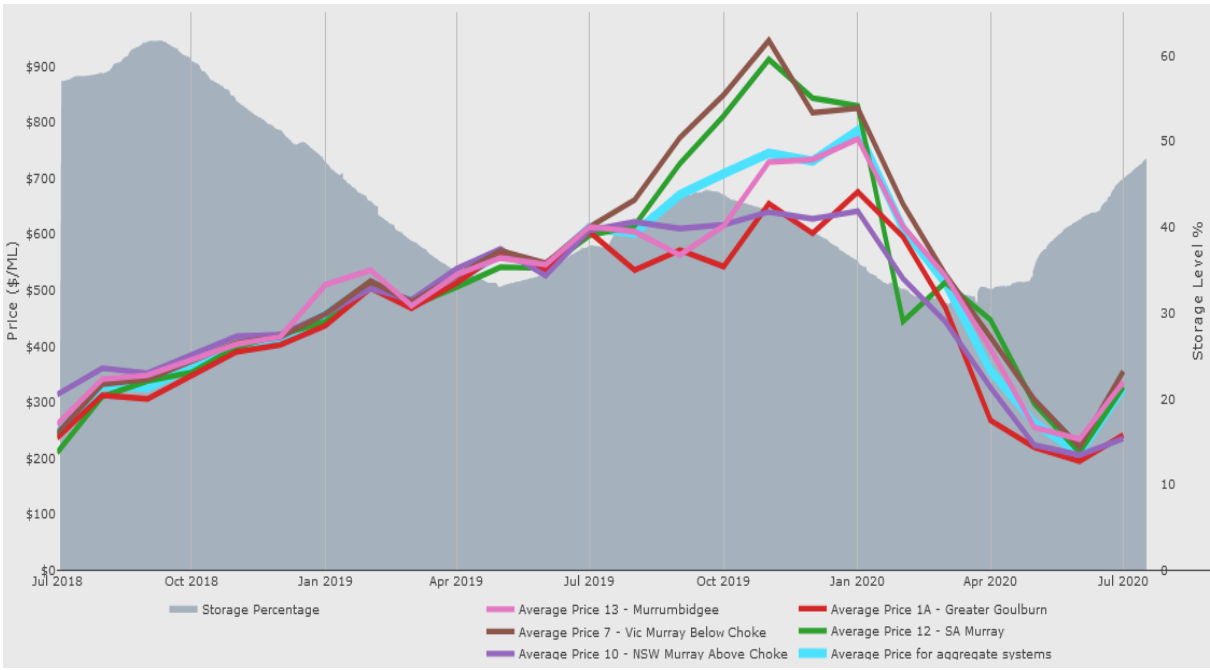
- MC: Rod Carr – Marsden Jacob Associates
- Frances Simes – DEW Water Licensing
- Megan Taylor – Renmark Irrigation Trust
- Q&A and panel discussion



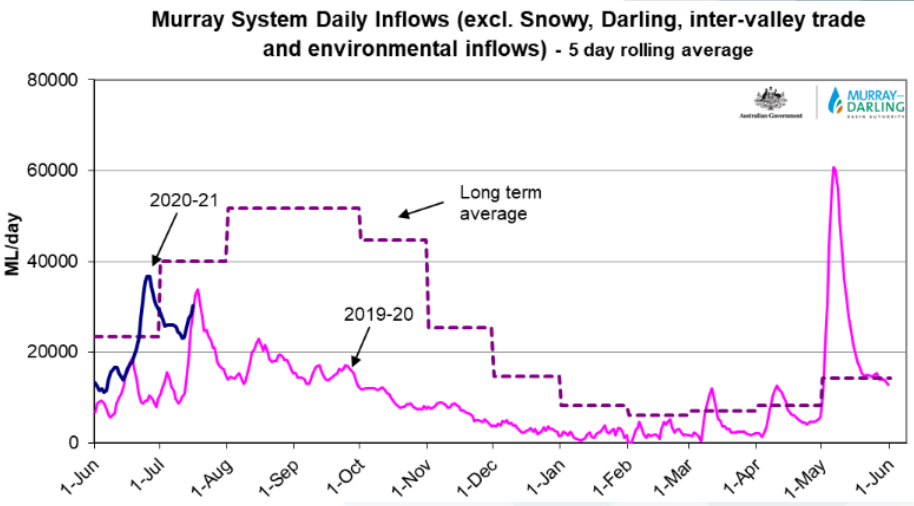
Market update and outlook to 2020/21

What has changed since the May webinar?

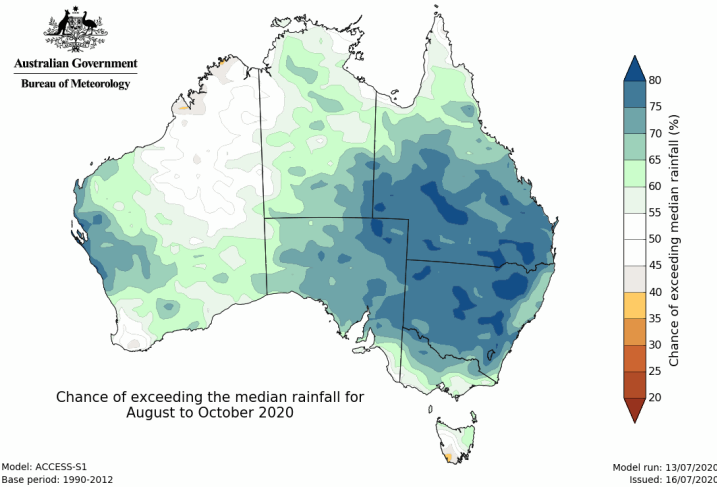
# Southern Connected System Temporary market



Source: Waterflow™ by Marsden Jacob



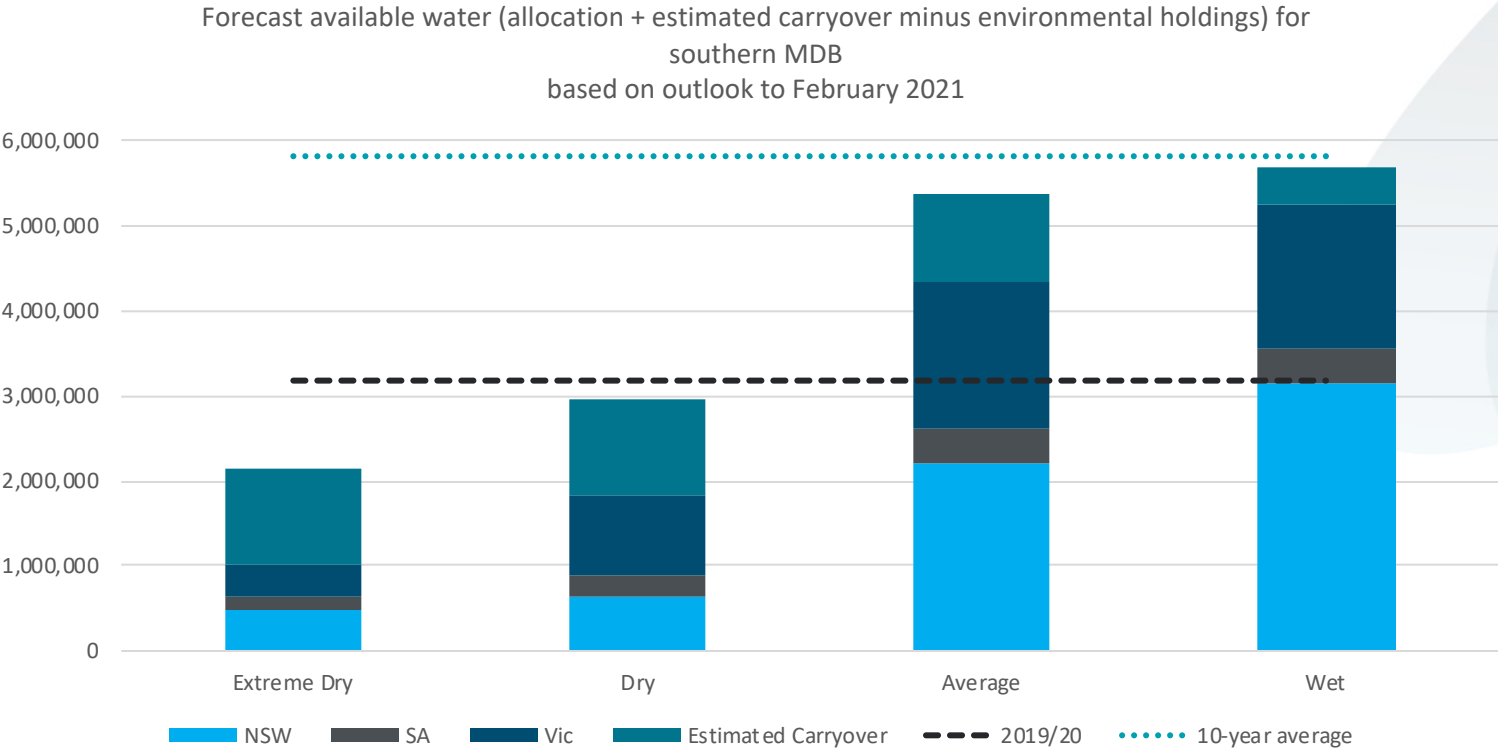
Source: MDBA



Source: BoM

# Allocation outlook in May

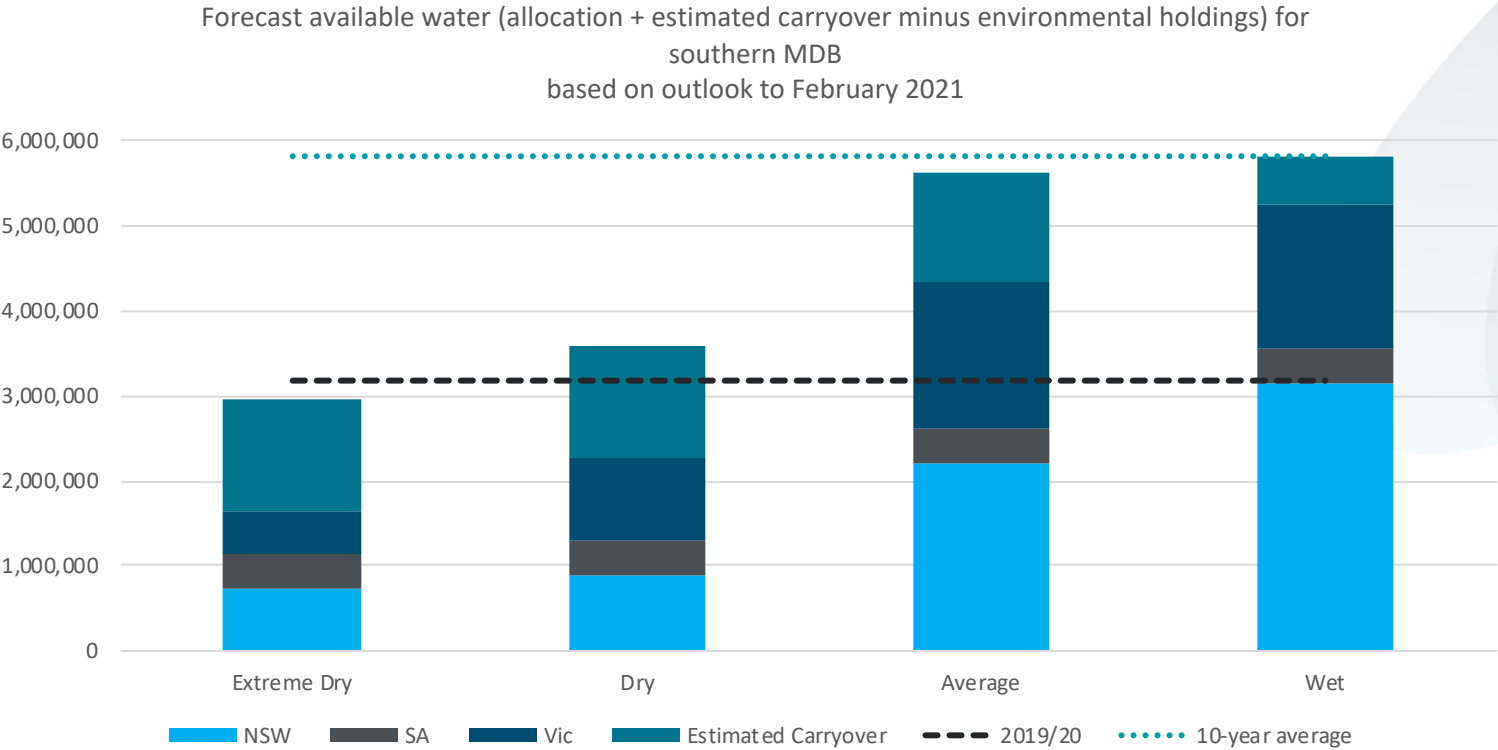
Indicated low water availability under driest conditions, but the outlook had improved from initial forecasts



Source: NSW & Vic Governments, Marsden Jacob estimates

# Allocation outlook now

Outlook has again improved significantly



Source: NSW & Vic Governments, Marsden Jacob estimates

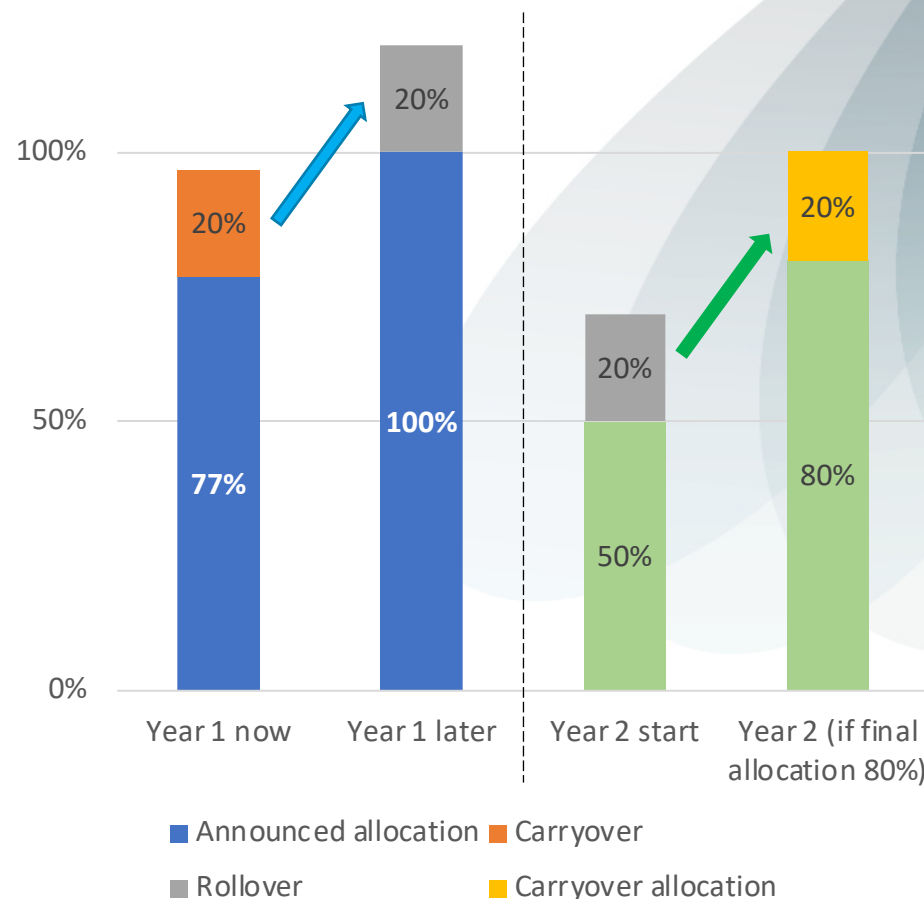
# 2020/21 Water Year

## All set for the season?

# Carryover (rollover)

## Did you carry water over with your SA entitlement?

- SA Class 3 allocation is now 77%, and outlooks indicate that 100% allocation will be received by October
- This would mean that the water you carried over **will not be available for use** in the 2020/21 season
- Volume above 100% will effectively spill into a rollover account
- You can carry over up to 20% of your entitlement
- If carryover is again triggered in the following year (i.e. April announcement is 50% or less) then the rollover volume can be credited to your water account if Year 2 allocation is 80% or less.
- Rollover water is not available for use or tradeable until it is converted to a carryover allocation on your water account





# Carryover and parking

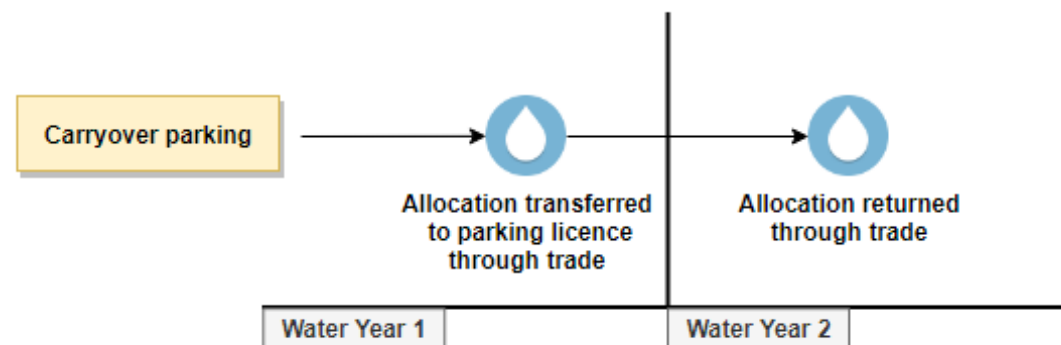
## Did you 'park' water interstate?

A few considerations when thinking about this season:

- Has the parked water already been returned to your SA allocation account?
- What were the contract details if you parked?
  - Date of return – when will this happen?
  - Risk of spill – is there a risk that you will not get your water returned?
  - Current Vic Murray system risk of spill is 60%
- Location of parking – can trade restrictions impede return of water? Current trade restrictions include →

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Product	Product Definition
<b>Carryover Parking</b>	Certain types of Entitlements can allow unused Allocation water to be 'carried over' from one water year to another. In a Carryover Parking contract a party with excess Allocation water ('Placer') rents carryover space from an Entitlement <b>Holder</b> to carry water over. The 'parked' Allocation water is returned to the Placer in the following water year.



 Home Admin Premium Market Overview Buy Water Sell Water	Market Overview				
	TEMP PRICE	PERM PRICE	STORAGE / ALLOCATIONS	CONNECTIVITY	NEWS
	Barmah Choke limit			Closed 0 ML	Limit last updated 12 minutes ago
	Goulburn to Murray IVT limit			Closed -33,871 ML	Limit last changed 9 hours ago
	Murrumbidgee IVT Out limit			Closed	Limit last updated 18 hours ago

Source: Waterflow™ by Marsden Jacob

# Water account management

## Important not to exceed your site use limit or overuse – Penalties apply

- Site use: The combined volume of announced allocation, carryover, parked water, forward water and bought temporary water may exceed your site use limit
  - Not an issue as long as you don't **USE** more than your site use limit is (if there's water just sitting on your account that is not prohibited)
- Overuse: SA River Murray water users must also ensure that they have not used more water than is available on their account by the end of each quarter
  - A penalty for excess water use will apply if you have used more water than the volume of water available on your account at close of business on 30 September 2020

Accounting Period for the River Murray Prescribed Watercourse	Penalty for overuse			Penalty for unlawful taking or use of water
	For first 10 per cent	Above 10 per cent and up to and including 25 per cent	Above 25 per cent	
1 April to 30 June 2020	\$1.41/kL	\$3.29/kL	\$5.64/kL	\$7.99/kL

# Water budgeting is important

## Water budget questions you should consider

1. How much water will I need to use this quarter/year under different weather conditions?
2. How much allocation water will I have available (carryover, announced allocation, parked water, forward water, bought temp water combined)?
3. What is the anticipated surplus/deficit?
  - Am I at risk of needing more water than I have?
  - If so, do I have a trading strategy, so I don't get caught out paying high prices?
  - What is my current ability to get allocation water to SA using interstate trade?
4. How much water can I use?
  - Is my budgeted/actual water use greater than my site use limit? Do I need to consider going into the market to purchase more site use?

**Marsden Jacob and PIRSA have developed a factsheet and checklist that can be used to prepare a water budget**

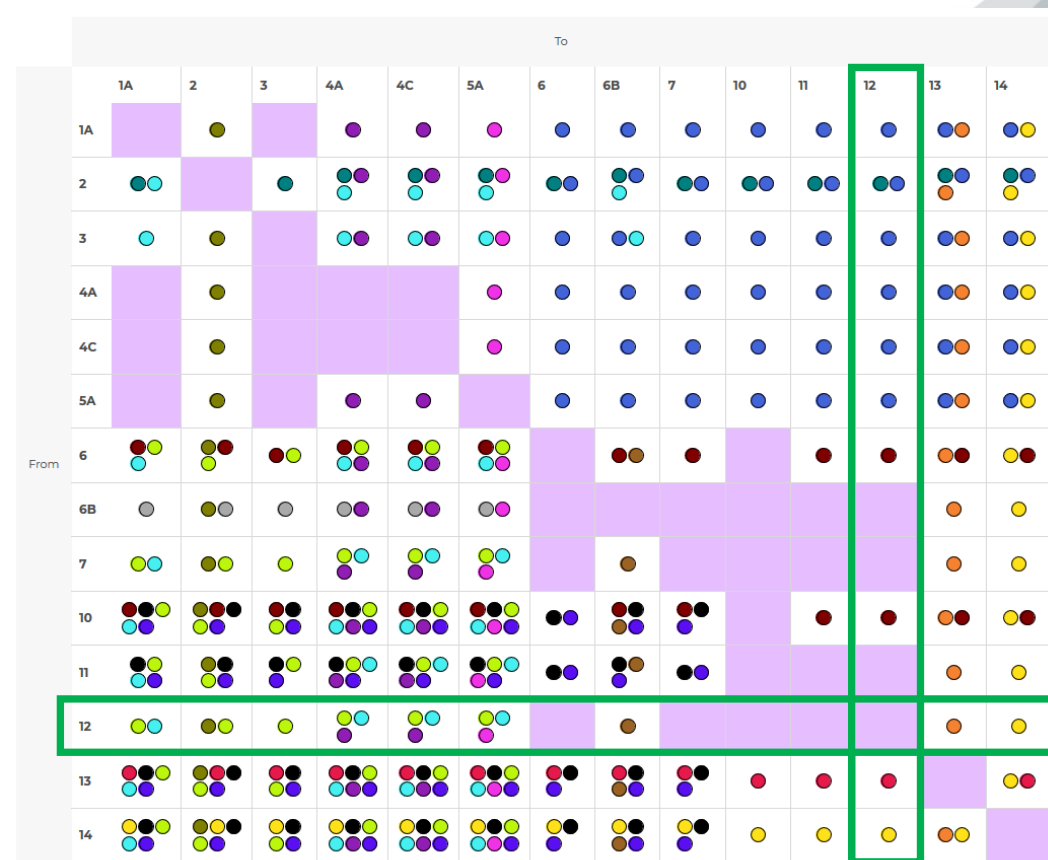
## Beyond 2020-21

Diversifying my water portfolio via an  
interstate lease or entitlement purchase

# Market connectivity in the SCMDB

- Allocation can be traded across catchments and state boundaries subject to trading rules and limits
- This increases the market size, and gives e.g. SA irrigators access to interstate entitlements and allocation
- For comparison:
  - SA Class 3 EOI: 608GL
  - Vic 7 HR EOI: 938GL
  - NSW 11 HS EOI: 164GL
  - NSW 13 GS EOI: 1,892GL

Underpinned by legislation (Schedule D of Schedule 1 of the *Cwth Water Act 2007*)



## Limit Legend

- Barmah Choke limit
- Lower Broken Creek back-trade limit
- Broken back-trade limit
- Broken out trade limit
- Goulburn to Murray IVT limit
- NSW to VIC annual trade limit
- Murrumbidgee IVT Out limit
- Murrumbidgee IVT In limit
- Lower Darling out/in trade limit
- Goulburn back-trade limit
- Upper Goulburn back-trade limit
- Campaspe back-trade limit
- Loddon back-trade limit
- Upper Goulburn - Lower Broken back-trade limit
- Always Allowed
- NSW to VIC spill-risk trade limit

# Connectivity underpins water delivery to South Australia

Under the current trading rules, temporary water can be *always* traded to SA Murray from Victorian zones 6B & 7 and NSW zone 11 without limits

- This means that buying or leasing entitlements from these zones comes without delivery risk
- From other zones trade may be restricted
- Main trade limits are
  - Barmah Choke
  - Goulburn IVT
  - Murrumbidgee IVT (In or Out)



Source: Waterflow™ by Marsden Jacob

3 matches

*\* This price represents the lowest sell (for buy water searches)/highest buy (for sell water searches) listing from our data providers only, and does not represent the whole market.*

11	NSW MURRAY BELOW CHOKE	TEMPORARY	
Trade limit balance: Unlimited no trade restrictions to your zone			
Price (ML)	Trade processing	Market depth	Total cost
\$350* <span>↑66.67%</span>	Up to 20 business days	10 Listings	\$3,777 (Excl brokerage*)

7	VIC MURRAY BELOW CHOKE	TEMPORARY	
Trade limit balance: Unlimited no trade restrictions to your zone			
Price (ML)	Trade processing	Market depth	Total cost
\$370* <span>↑48.00%</span>	Up to 20 business days	20 Listings	\$3,977 (Excl brokerage*)

12	SA MURRAY	TEMPORARY	
Trade limit balance: Unlimited no trade restrictions to your zone			
Price (ML)	Trade processing	Market depth	Total cost
\$375* <span>↑87.50%</span>	Up to 10 business days	6 Listings	\$4,027 (Excl brokerage*)

Trading to your zone is also open from these zones.

6B	LOWER BROKEN CREEK	TEMPORARY	
Trade limit balance: Unlimited no trade restrictions to your zone			

# Connectivity underpins water delivery to South Australia

So how do I actually get water to my property in SA if I own/lease interstate water?

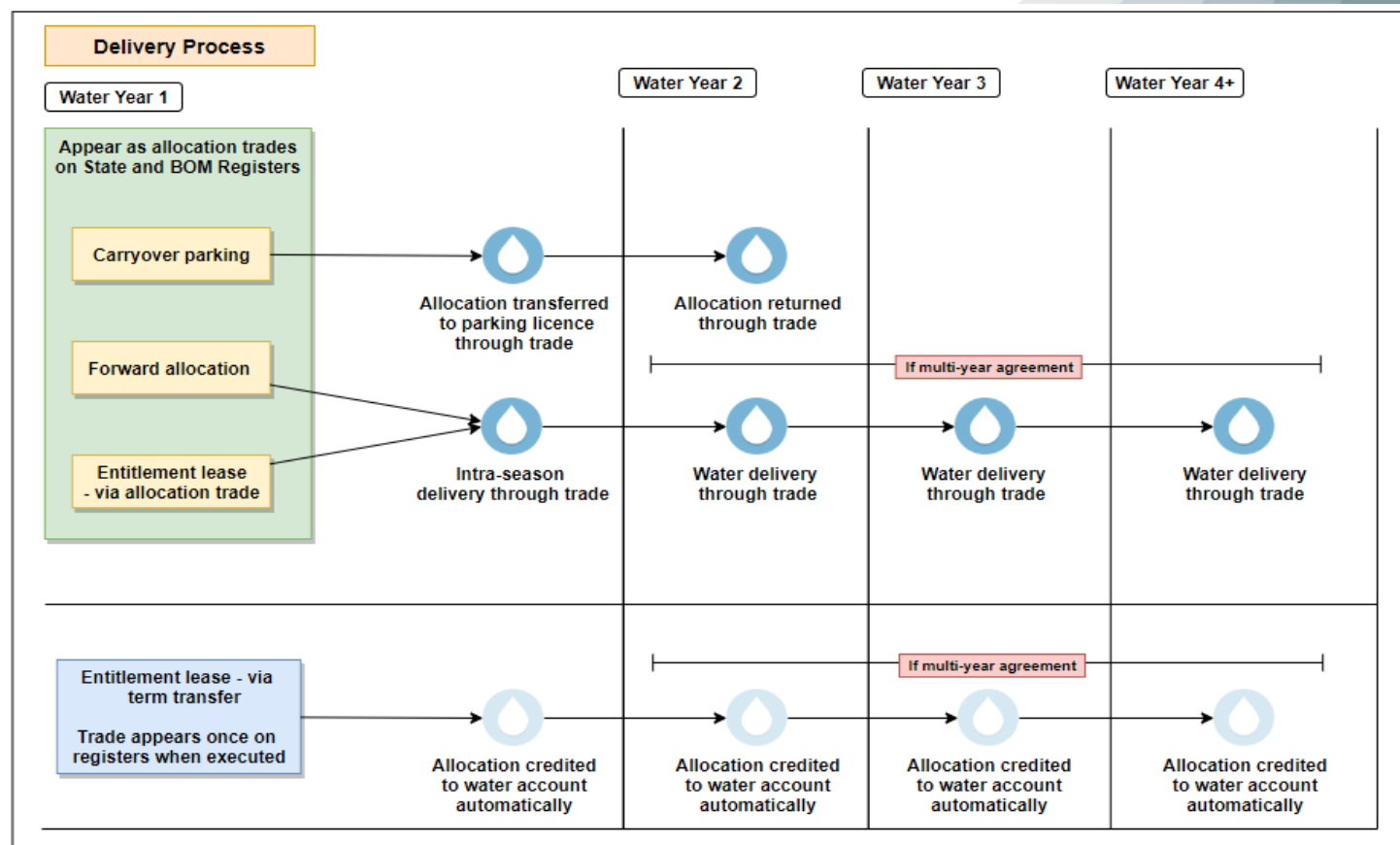
- If you purchased Permanent Water:

- Allocation trade
- Establish an Interstate Tag

- If you Lease water:

- Allocation trade
- (Limited term transfer)

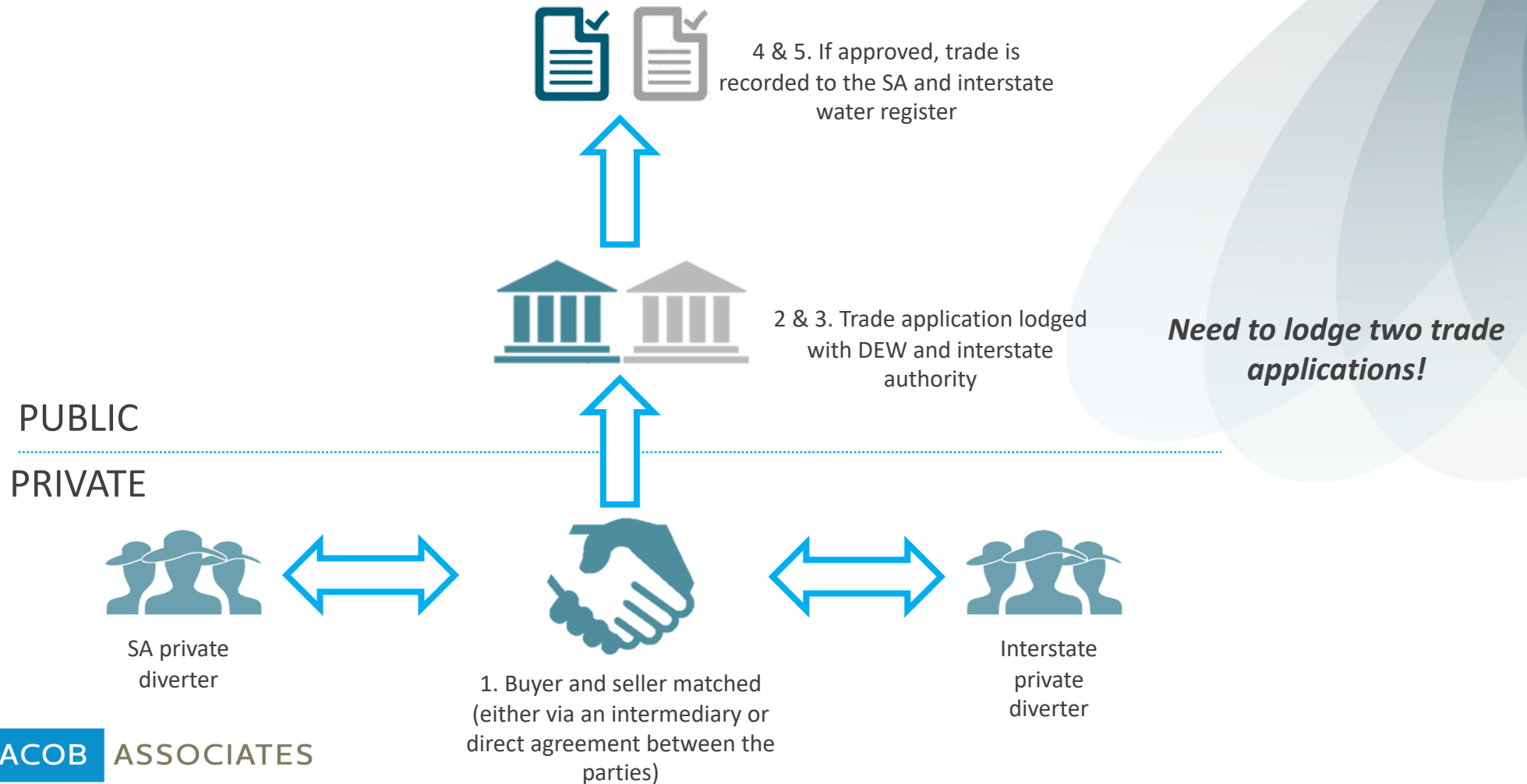
In terms of applications, allocation trades need to be lodged BOTH with DEW and interstate water authority (and potentially with IIOs if involved) – examples to follow





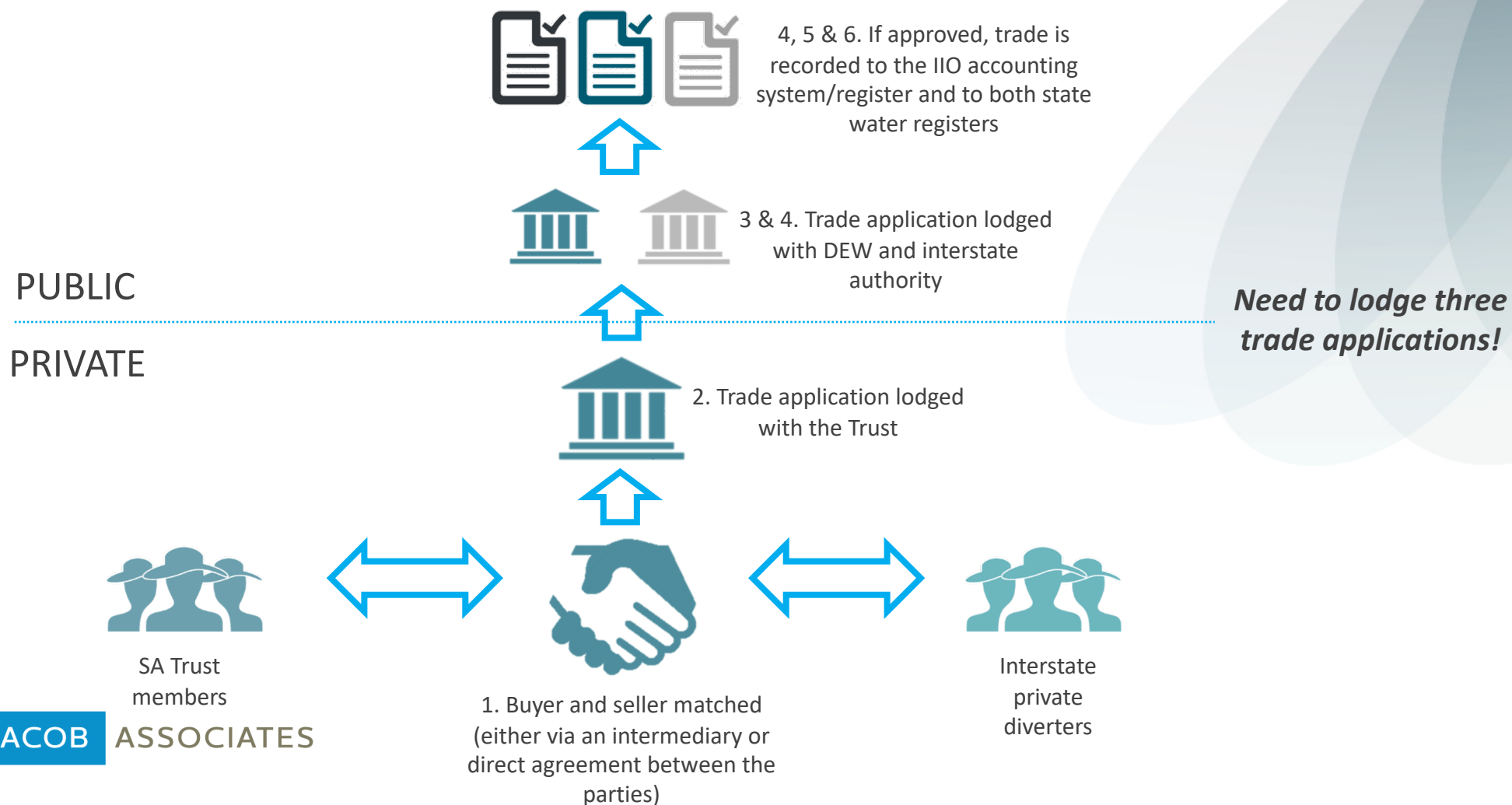
# Trade processing example # 1

A trade between SA River Murray private diverter and an interstate private diverter has five steps:



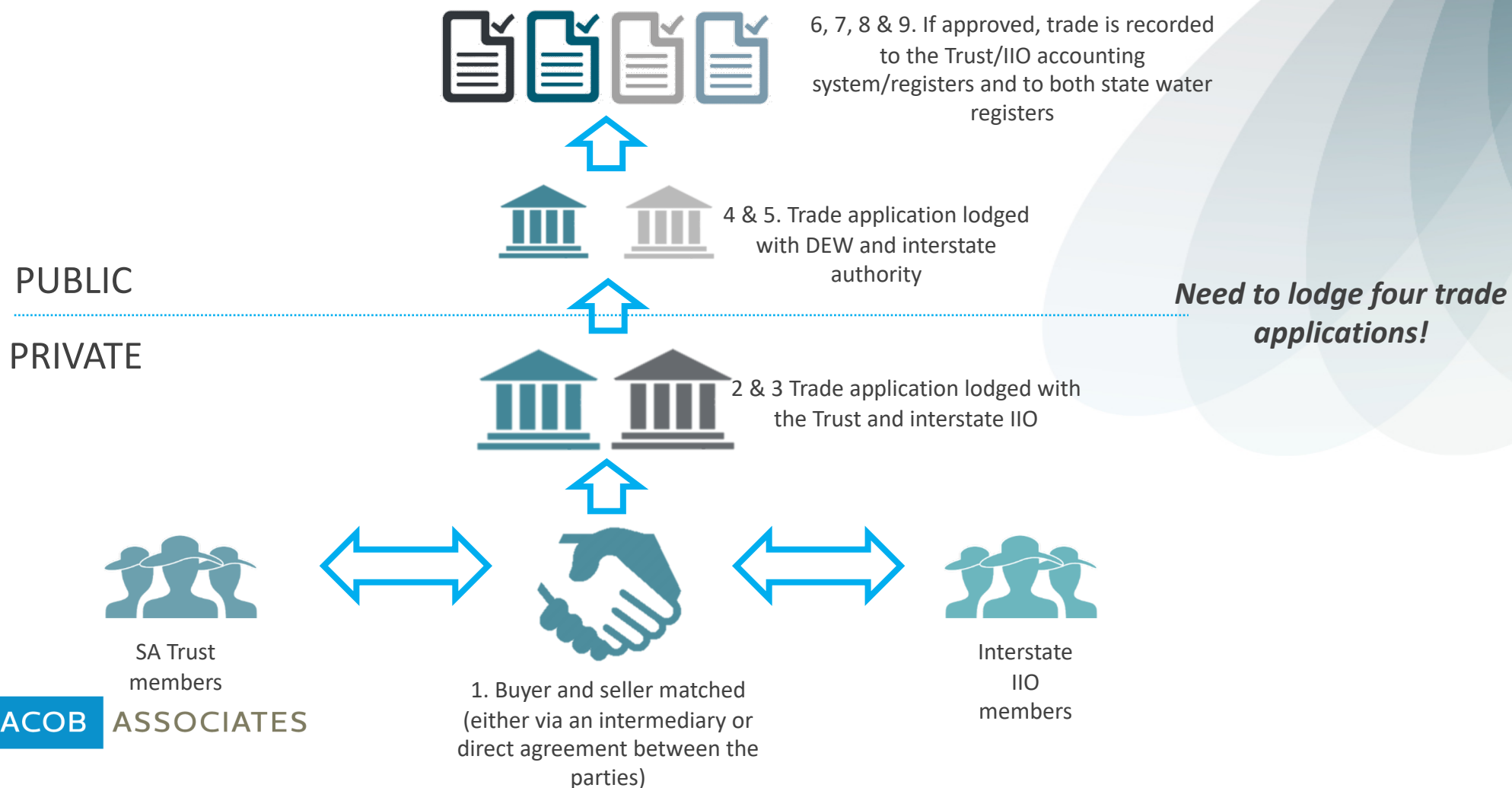
## Trade processing example # 2

A trade between Trust irrigators (CIT or RIT) and interstate private diverters involves more steps:



# Trade processing example # 3

A trade between Trust irrigators (CIT or RIT) and interstate IIO members (e.g. Murray Irrigation) involves the most steps:



# Water delivery to SA via allocation trades

Contains multiple steps and require multiple applications and approvals

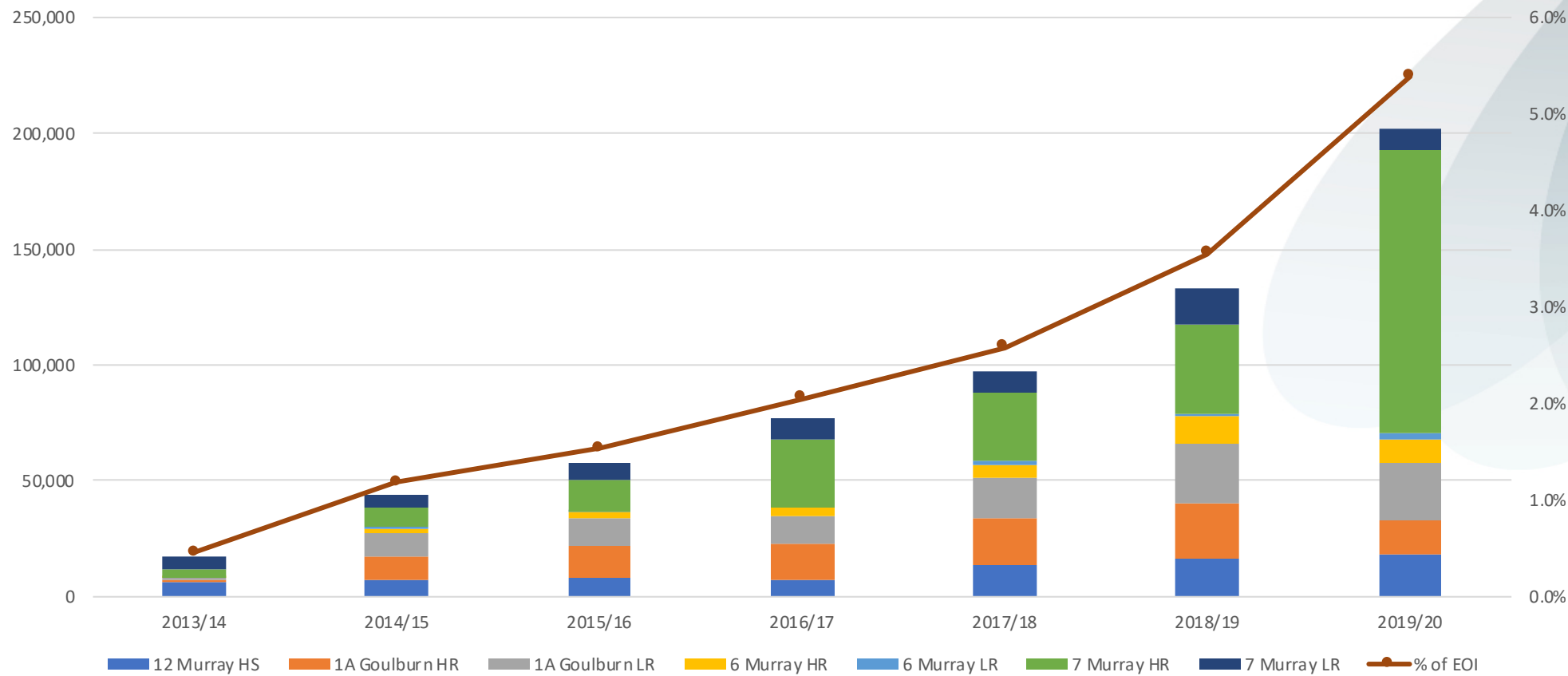
- Water brokers can assist with trade applications, or provide a full service handling all the paperwork
- Trust members can get assistance from the Trusts
- Private diverters can seek guidance from the DEW

**Part 2 of this webinar will involve a panel session discussing the practical applications of making a trade**

## An Entitlement Lease may be a beneficial option to access water

Product	Definition	Typical contract features	Benefits
<b>Entitlement Lease</b>	An Entitlement Holder ( <b>seller/lessor</b> ) transfers complete access to the Entitlement to a second party ( <b>buyer/lessee</b> ) for a specified period of time - one or more water years. At the end of that period, the access to the Entitlement returns to the Lessor.	<ul style="list-style-type: none"> <li>• Entitlement Type and Location</li> <li>• Price and Volume</li> <li>• Length of Lease (X years)</li> <li>• Annual Price Increases (e.g. CPI)</li> <li>• How and when Allocation is transferred (Term Transfer or separate Allocation Trade)</li> <li>• Responsibility for ongoing Entitlement Fees</li> <li>• (Capped Downside Risk)</li> </ul>	<ul style="list-style-type: none"> <li>• For <b>buyers</b>, leasing water provides water and financial security by guaranteeing access to a Water Entitlement for a known period. Compared to buying Water Entitlements outright, leases are a less capital-intensive alternative for water users to diversify and mitigate risk.</li> <li>• For <b>sellers</b>, Entitlement Leases provide secure income for the lease term while retaining the potential for longer-term asset appreciation</li> </ul>

# Popularity of Entitlement Leases has increased – SA and VIC term transfers



# Access to interstate water is a significant benefit

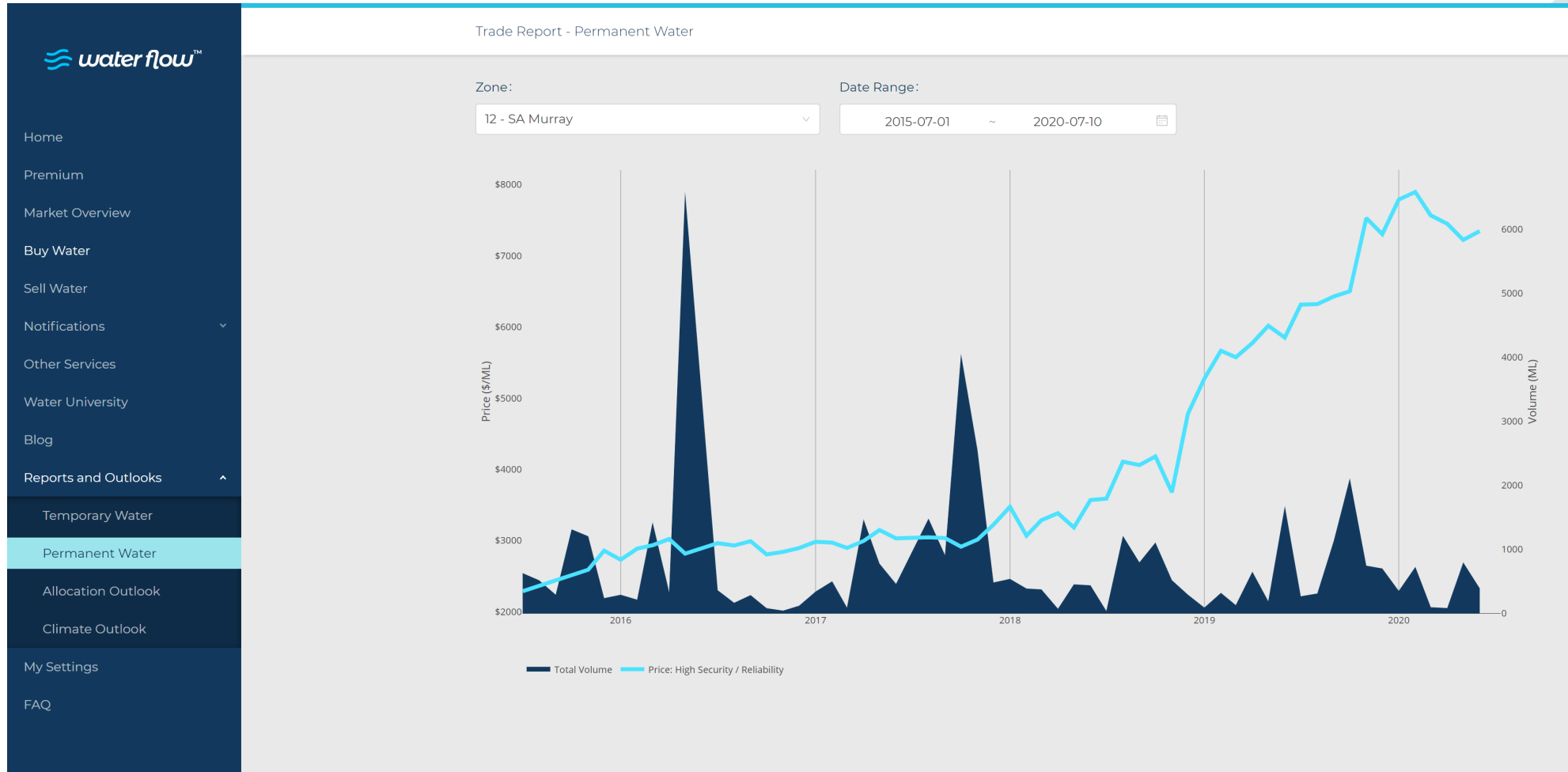
Purchasing an entitlement in VIC/NSW can give SA irrigators greater water security and improved carryover capacity

- Carryover capacity for Vic HR/LR and NSW GS entitlements is greater than in SA
- NSW HS entitlements will receive a 95/97% allocation on 1 July in all but extreme dry years (Millennium Drought)

	Class			
Zone		High Security / Reliability	Low Reliability	General Security
	1A Greater Goulburn	100%	100%	-
	2 Broken	50%	-	-
	3 Lower Goulburn	100%	100%	-
	4A Campaspe	100%	100%	-
	4C Lower Campaspe	100%	100%	-
	5A Loddon	50%	50%	-
	6 Vic Murray Above Choke	100%	100%	-
	6B Lower Broken Creek	100%	100%	-
	7 Vic Murray Below Choke	100%	100%	-
	10 NSW Murray Above Choke	0%	-	50%
	11 NSW Murray Below Choke	0%	-	50%
	12 SA Murray	20%	-	-
	13 Murrumbidgee	0%	-	30%
14 Lower Darling	0%	-	50%	

# Permanent purchase can still be the best option for you

## However, buying permanent water requires capital





## Costs associated with leasing/owning an entitlement - 2020/21 fees.

There are both administrative/transactional and ongoing fixed fees

- Ongoing fixed fees – payable for each ML of entitlement you own
  - There may also be annual account/service fees (e.g. \$119 per account in Victoria)
  - Important – these fees are separate to USING water in SA
  - No usage fees for SA River Murray entitlements, or water traded into SA and used in SA
    - IIOs different – also need to think about delivery rights

Transfer fees for allocation trades (getting water to SA)

- SA: \$277 per trade
- Vic: \$47.50 per trade
- NSW: \$49.37 per trade + \$4.77/ML if going to interstate
- NB. Fee attribution varies between service providers (brokers)!

Entitlement	Fixed fee/ML
NSW Murray HS~	\$11.03
NSW Murray GS~	\$6.18
NSW Murrumbidgee HS~	\$6.32
NSW Murrumbidgee GS~	\$3.25
Vic 7 HR	\$11.18
Vic 7 LR	\$4.10
Vic 1A HR	\$9.83
Vic 1A LR	\$4.50
SA Class 3 (NRM levy)*	\$6.75

# Risks associated with leasing/owning an entitlement


In order to manage a risk, it's essential to know what types of risk are associated with water market products

- Allocation risk
  - Will the entitlement yield sufficient allocation for your irrigation requirements?
- Delivery risk - trade limits
  - Can mitigate risk by targeting less risky entitlements
- Spill risk
  - Can be partly mitigated by smart use of carryover capacity
- Price risk
  - Always present in some shape or form, but also depends on your frame of mind
  - E.g. buying perm water at \$7,000/ML and then temp market stays at \$50/ML for five years in a row



## Risks associated with leasing/owning an entitlement

Product	Allocation Risk	Delivery Risk	Spill Risk	Price Risk	Risk Bearer	Counter Party Risk
<b>Permanent entitlement trade</b>	Yes	(Yes) You can mitigate risks associated with potential trade restrictions by acquiring entitlements that are not subject to as many trade limits	Yes	-	Buyer	(Low) The counter party risk could eventuate to the buyer in a situation where a bank refuses to discharge an encumbrance such as mortgage from the seller's water entitlement
<b>Entitlement lease</b>	Yes	(Yes) You can mitigate risks associated with potential trade restrictions by acquiring entitlements that are not subject to as many trade limits	Yes	(Yes) In leases you can lock in the price, but the price risk is associated with paying more than the eventual spot market price would be at the time of delivery	Lessee (buyer), unless hybrid	Low



# Beyond 2020-21

## Case Studies

### Entitlement lease and purchase

# Case study # 1 - Grower looking to diversify their water portfolio

## Entitlement lease case study

HS/HR Entitlement prices are softening, but outright ownership will still require capital – so what is an alternative?

- Need to factor in trade limits – can you get allocation water delivered to your SA account?
  - Especially a consideration with Goulburn, Above Choke and Murrumbidgee entitlements
- Allocation yield - how much allocation are the entitlements likely to yield year on year?
  - NSW High Security entitlements have historically provided a good allocation yield
- Carryover capacity - NSW HS entitlements can't carry water over
- Fees and charges – entitlements have varying fixed charges

### 1A GREATER GOULBURN

High Security / Reliability \$3,950 - 4,100 / ML

### 6 VIC MURRAY ABOVE CHOKE

High Security / Reliability \$3,900 - 5,000 / ML

### 7 VIC MURRAY BELOW CHOKE

High Security / Reliability \$5,130 - 6,200 / ML

### 11 NSW MURRAY BELOW CHOKE

High Security / Reliability \$6,000 - 8,200 / ML

### 12 MY ZONE SA MURRAY

High Security / Reliability \$6,450 - 7,050 / ML

### 13 MURRUMBIDGEE

High Security / Reliability \$7,000 - 7,900 / ML

## Case study # 1 - Grower looking to diversify their water portfolio

Entitlement leases give access to entitlement characteristics without the capital cost

Same considerations apply as with an entitlement purchase:

- Deliverability – can you get allocation water delivered to your SA account?
- Moving forward, how much allocation are the entitlements likely to yield year on year?
- Carryover capacity – this varies between entitlement type and State
- Fees and charges – entitlements have varying fixed charges, important to factor in.
- Lease terms are generally 3 or more years – consideration of the alternative what is the average temporary water price going to be over that time?

# Case study # 1 - Grower looking to diversify their water portfolio

## Calculation examples

- Lease prices late last season were ca. \$350/ML for Zone 7 HR in Victoria, and \$500/ML for Zone 11 HS in NSW for a 3-5 year term
- **Example 1:** you leased 100ML of Zone 7 HR. Assume this year's allocation is 48% ('dry' scenario):
  - You will have 48ML available. You've paid for the full 100ML, i.e.  $\$350/\text{ML} * 100\text{ML} = \$35,000$ .
  - The effective \$/ML you've paid is  $\$35,000/48\text{ML} = \underline{\$729/\text{ML}}$
  - > higher than the current spot allocation price.

- **Example 2:** you leased 100ML of Zone 11 HS. Assume this year's allocation is 97%:
  - You will have 97ML available. You've paid for the full 100ML, i.e.  $\$500/\text{ML} * 100\text{ML} = \$50,000$ .
  - The effective \$/ML you've paid is  $\$50,000/97\text{ML} = \underline{\$515/\text{ML}}$
  - > higher than the current spot allocation price.

Year	Annual VWAP (\$/ML)
2016/17	\$71
2017/18	\$135
2018/19	\$442
2019/20	\$654

For reference, Murray Below Choke VWAP since 2010 is \$181/ML, but VWAP for last 4 years is \$307/ML

## Case study # 2 - Grower looking to diversify their water portfolio

### Historical calculation example

- SA Irrigator buying 100ML of Zone 7 HR water in 2015/16 vs. buying 100ML from the allocation market each year – what is the cost difference?
- Assumptions
  - Allocation water can be bought from the spot market at Annual VWAP prices
  - Both irrigators use 100ML of water per annum in SA
  - Excludes broker fees and commission

#### *Irrigator A – Buying permanent 7HR*

Item	Cost
Purchase price (\$3,000/ML)	\$300,000
Set up interstate tag to SA (one-off fee)	\$277
Vic fixed costs estimate (for four years)	\$540
2019/20 temp purchase (66% allocation -> buying 34ML)	\$22,236
<b>Total cost</b>	<b>\$323,053</b>
<b>Net capital gain (\$3,500/ML)</b>	<b>\$350,000</b>

#### *Irrigator B – Buying allocation water*

Year	Annual VWAP (\$/ML)	Temp purchase cost + application fee
2016/17	\$71	\$7,377
2017/18	\$135	\$13,777
2018/19	\$442	\$44,477
2019/20	\$654	\$65,677
<b>Total cost</b>		<b>\$131,308</b>



## Conclusions

Diversifying water holdings with interstate water can provide significant benefits to SA irrigators

Provides opportunities for SA irrigators to access interstate entitlements e.g. with improved carryover capacity or allocation yield. However, need to consider:

- Cost of products (purchase cost and ongoing fees) – what is the right one for you?
- Deliverability – can you securely get water delivered to your SA account or can trade limits impede?
- Entitlement characteristics such as allocation yield, carryover capacity and risk of spill – need to do your own research and analysis in relation to what is the best fit for you and your requirements
- Broader availability outlook – is there a shift towards a wetter pattern underway?

**It is pivotal to be able to access reliable and independent information to support decision-making!**

**As part of these workshops, a set of Factsheets and a Water balance checklist to help you plan for your season will be available via the PIRSA website and on Waterflow.**

# Let's talk more



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