

Water entitlement market price report – September 2018

Murray-Darling Basin

A Report prepared for the Department of Agriculture and Water
Resources

Tuesday 16 October 2018

A I T H E R

© 2018 Aither Pty Ltd. All rights reserved.

This document has been prepared on the basis of information available to Aither Pty Ltd at the date of publication. Aither Pty Ltd makes no warranties, expressed or implied, in relation to any information contained in this document. This document does not purport to represent commercial, financial or legal advice, and should not be relied upon as such. Aither Pty Ltd does not accept responsibility or liability for any loss, damage, cost or expense incurred or arising by reason of any party using or relying on information provided in this document. Any party that uses information contained in this document for any purpose does so at its own risk.

Contents

- Introduction
- SA Murray
- Vic 6 Murray
- Vic 7 Murray
- Vic 6B Lower Broken Creek
- Vic 1A Greater Goulburn
- Vic 1B Boort
- Vic 3 Lower Goulburn
- Vic 4C Lower Campaspe
- Vic 4A Campaspe (Eppalock to WWC)
- Vic 5A Loddon
- Vic 5B Bullarook
- NSW Murray
- NSW Murray Irrigation Limited
- NSW Murrumbidgee
- NSW Lower Darling
- NSW Macquarie
- NSW Lower Namoi
- NSW Upper Namoi
- NSW Gwydir
- NSW Border Rivers
- NSW Barwon-Darling Unregulated
- NSW Lachlan
- Queensland entitlements

Introduction

This water entitlement market price report has been prepared by Aither on behalf of the Australian Government Department of Agriculture and Water Resources.

This report includes details regarding Murray-Darling Basin water entitlement prices and trade activity. The entitlement types included within this report are detailed below:

Southern Murray-Darling Basin Entitlements

SA Murray 3A, Vic 6 Murray HRWS, Vic 6 Murray LRWS, Vic 7 Murray HRWS, Vic 7 Murray LRWS, Vic 6B Lower Broken Creek HRWS, Vic 6B Lower Broken Creek LRWS, Vic 1A Greater Goulburn HRWS, Vic 1A Greater Goulburn LRWS, Vic 1B Boort HRWS, Vic 1B Boort LRWS, Vic 3 Lower Goulburn HRWS, Vic 3 Lower Goulburn LRWS, Vic 4C Lower Campaspe HRWS, Vic 4A Campaspe (Eppalock to WWC) HRWS, Vic 4A Campaspe (Eppalock to WWC) LRWS, Vic 5A Loddon HRWS, Vic 5A Loddon LRWS, Vic 5B Bullarook HRWS, Vic 5B Bullarook LRWS, NSW Murray HS, NSW Murray GS, NSW Murray Irrigation Limited GS, NSW Murrumbidgee HS, NSW Murrumbidgee GS, NSW Lower Darling HS, NSW Lower Darling GS.

Northern Murray-Darling Basin Entitlement types

NSW Macquarie GS, NSW Lower Namoi GS, NSW Upper Namoi GS, NSW Gwydir GS, NSW Border Rivers GS A, NSW Border Rivers GS B, NSW Barwon-Darling Unregulated A, NSW Barwon-Darling Unregulated B, NSW Barwon-Darling Unregulated C, NSW Lachlan GS, QLD Condamine-Balonne (St George) Supplemented, Condamine-Balonne QLD Condamine-Balonne (Lower Balonne) Unsupplemented, QLD Condamine-Balonne (Upper Condamine) Unsupplemented, QLD Central Condamine Alluvium Groundwater (1, 2, 3 and 4), QLD Upper Condamine Alluvium Groundwater (Dalrymple Creek) Groundwater, QLD Upper Condamine Alluvium Groundwater (Oakey Creek) Groundwater, QLD Condamine-Balonne Lower Balonne Overland flow, QLD Border Rivers Supplemented (Macintyre Brook), QLD Border Rivers Unsupplemented.

A brief summary of Aither's calculation methodology has been provided below:



A I T H E R

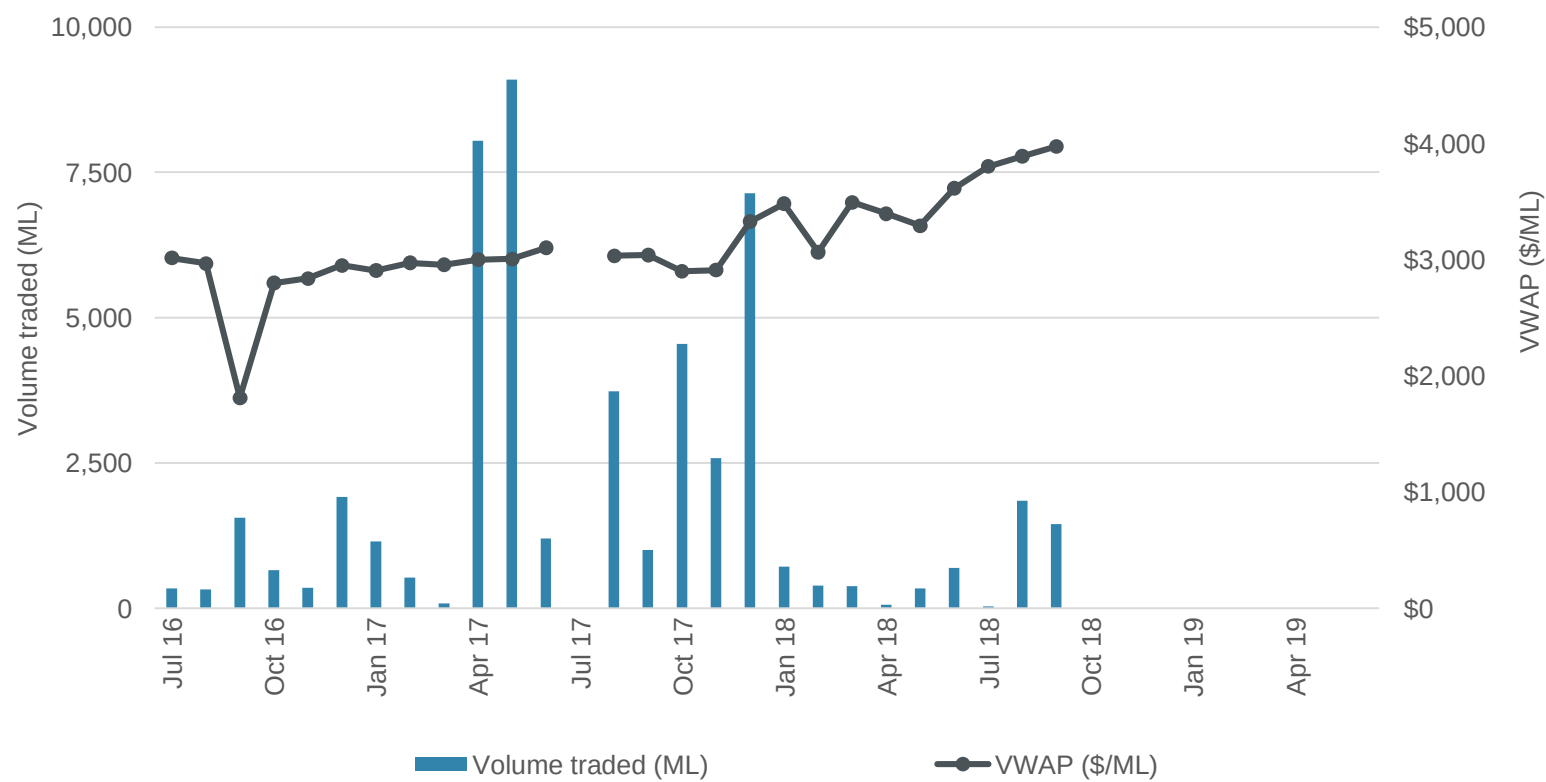
SA Murray

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
SA Murray 3A	\$3,972	\$4,600	29	1,450	49.99	\$3,950 - \$4,300

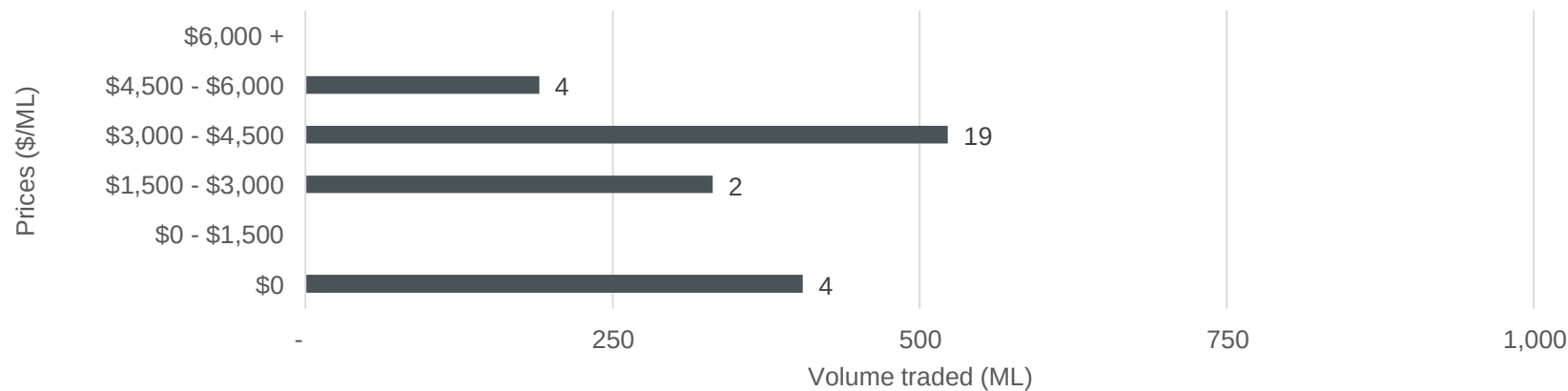
Source: Aither, 2018. Based on the SA Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the SA Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the SA Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

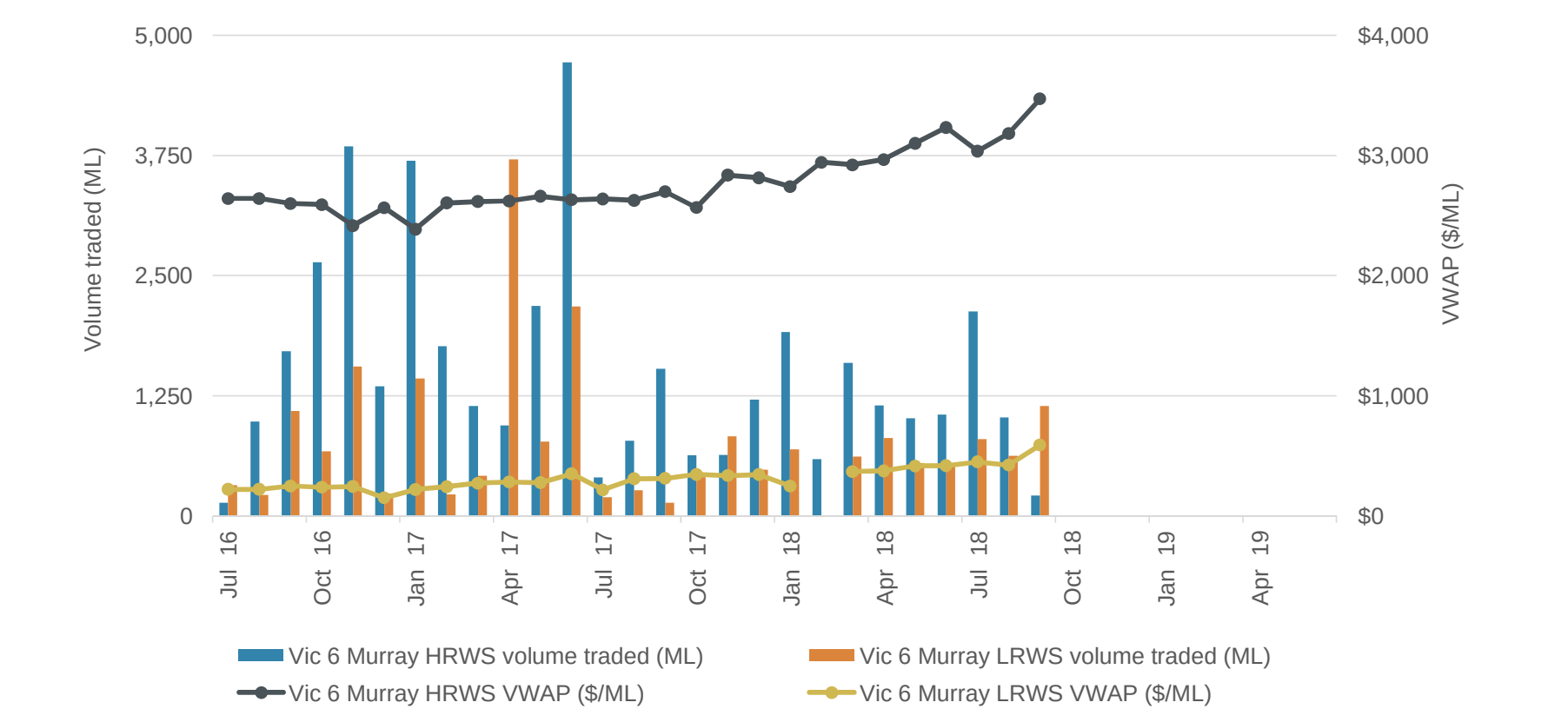
Vic 6 Murray

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 6 Murray HRWS	\$3,471	\$3,700	9	211	23.46	\$3,800 - \$4,000
Vic 6 Murray LRWS	\$590	\$600	8	1,141	142.61	\$500 - \$600

Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

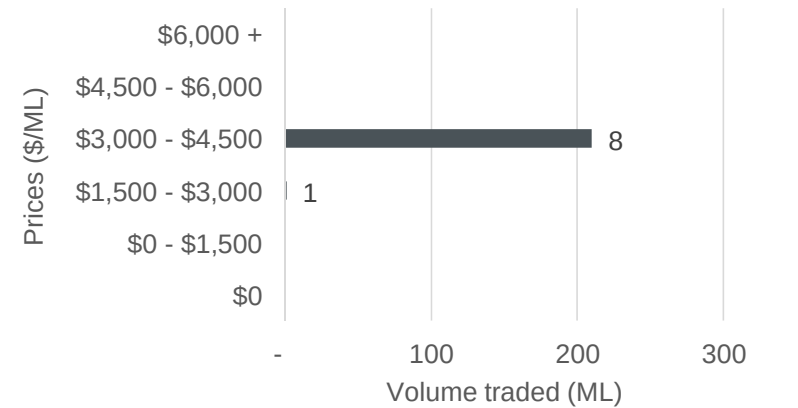
Market prices and volumes, July 2016 to June 2019



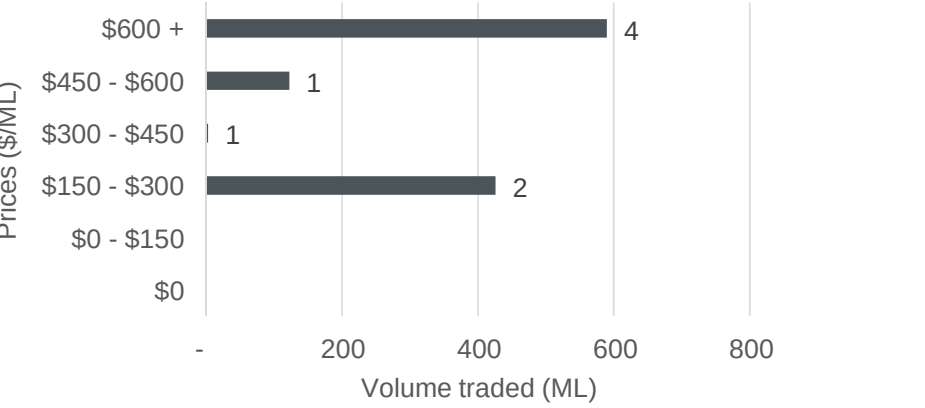
Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018

Vic 6 Murray HRWS



Vic 6 Murray LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

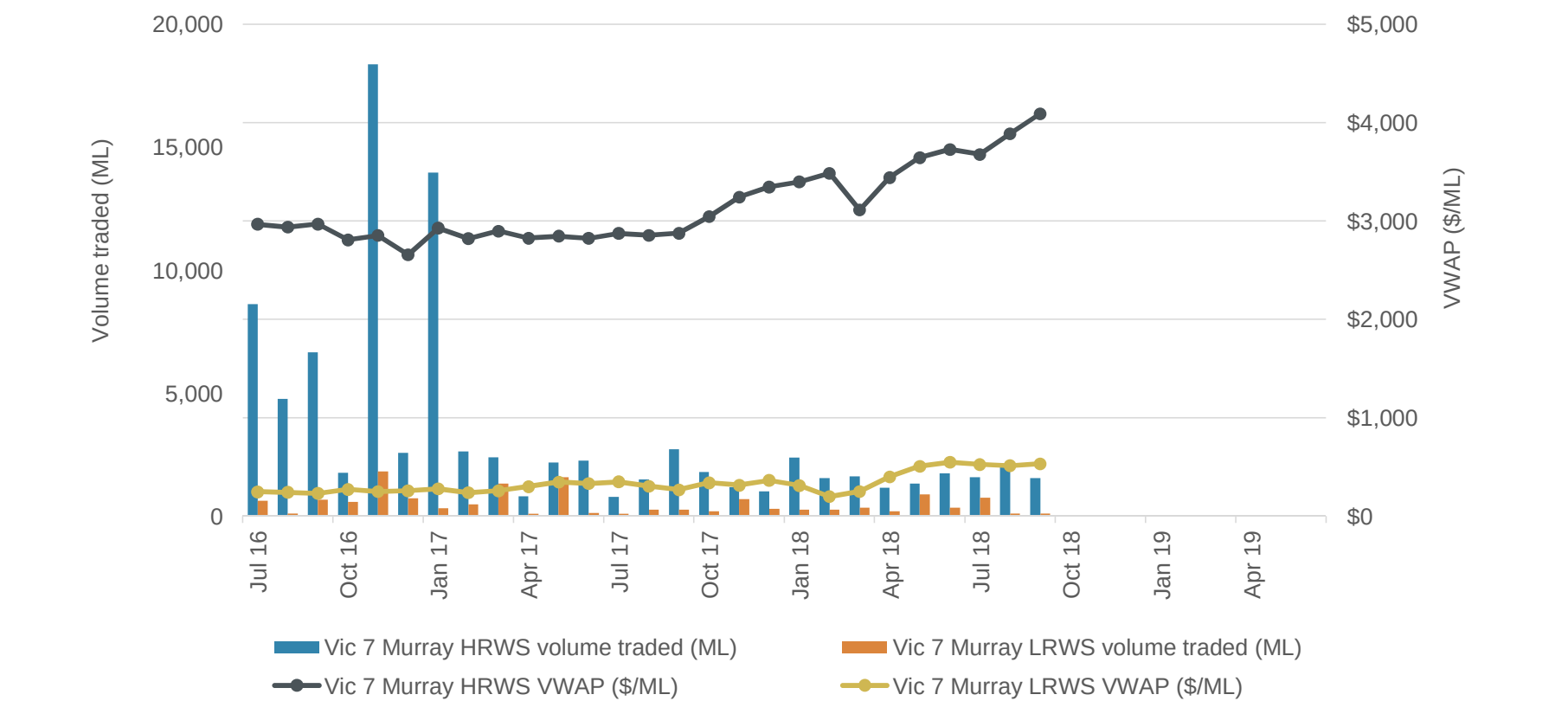
Vic 7 Murray

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 7 Murray HRWS	\$4,090	\$4,300	89	1,546	17.37	\$4,800 - \$5,100
Vic 7 Murray LRWS	\$532	\$571	6	104	17.40	\$550 - \$650

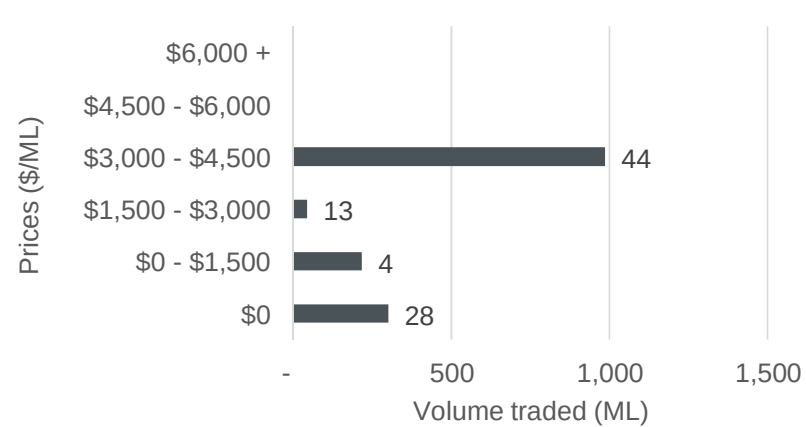
Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

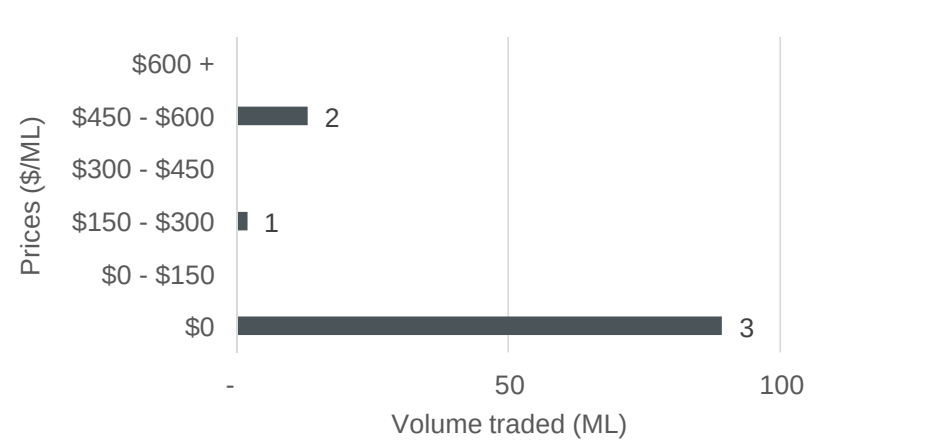


Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018 Vic 7 Murray HRWS



Vic 7 Murray LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

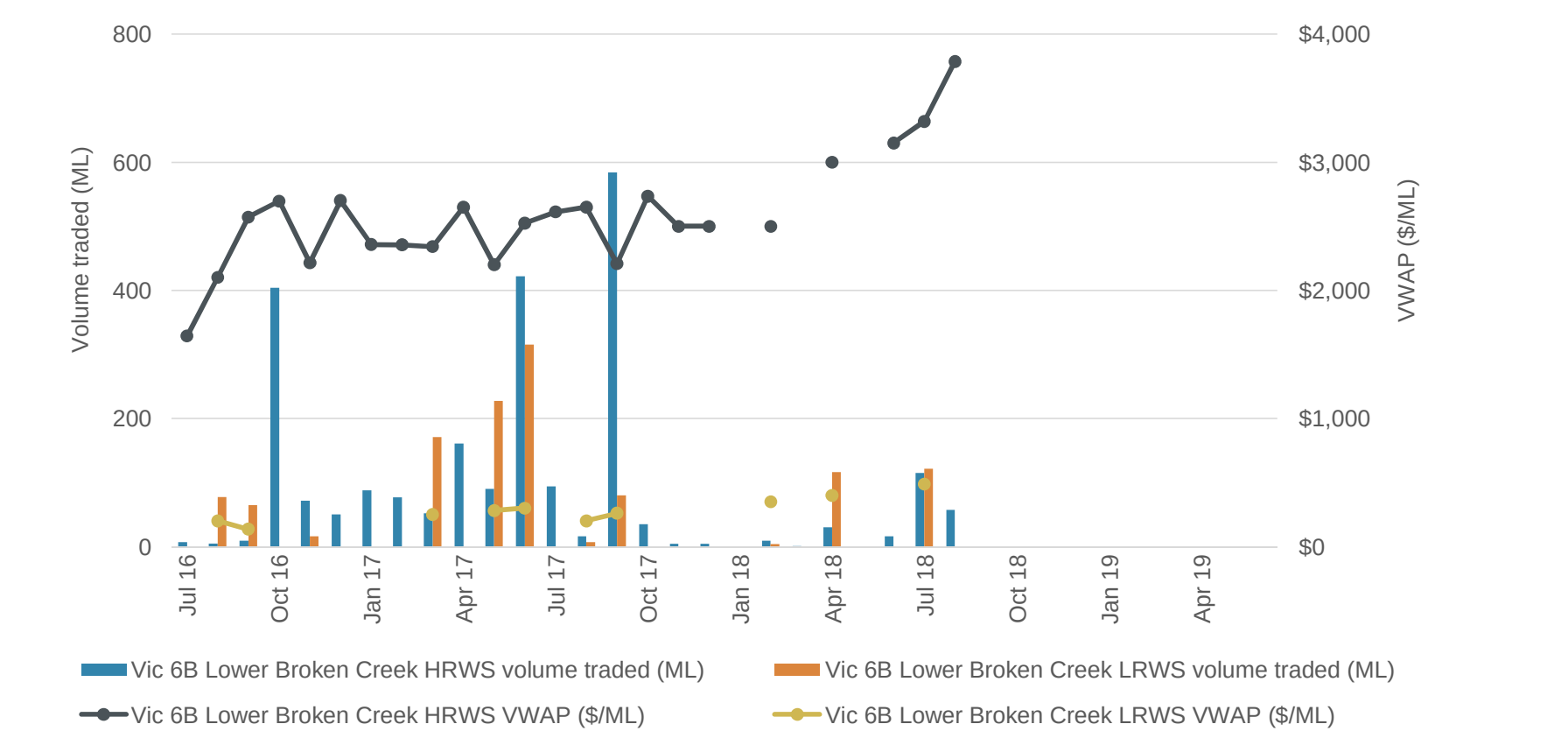
Vic 6B Lower Broken Creek

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 6B Lower Broken Creek HRWS	-	-	-	-	-	-
Vic 6B Lower Broken Creek LRWS	-	-	-	-	-	-

Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

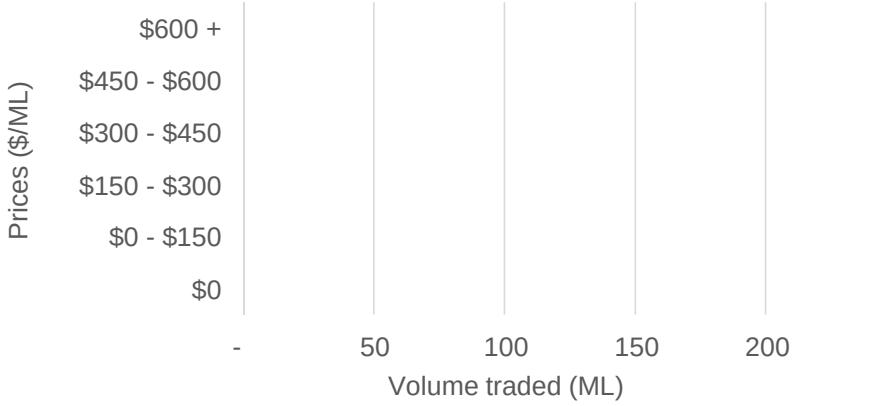


Source: Aither, 2018. Based on the VIC Water Registers.

Market price range, September 2018 Vic 6B Lower Broken Creek HRWS



Vic 6B Lower Broken Creek LRWS



Source: Aither, 2018. Based on the VIC Water Registers.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

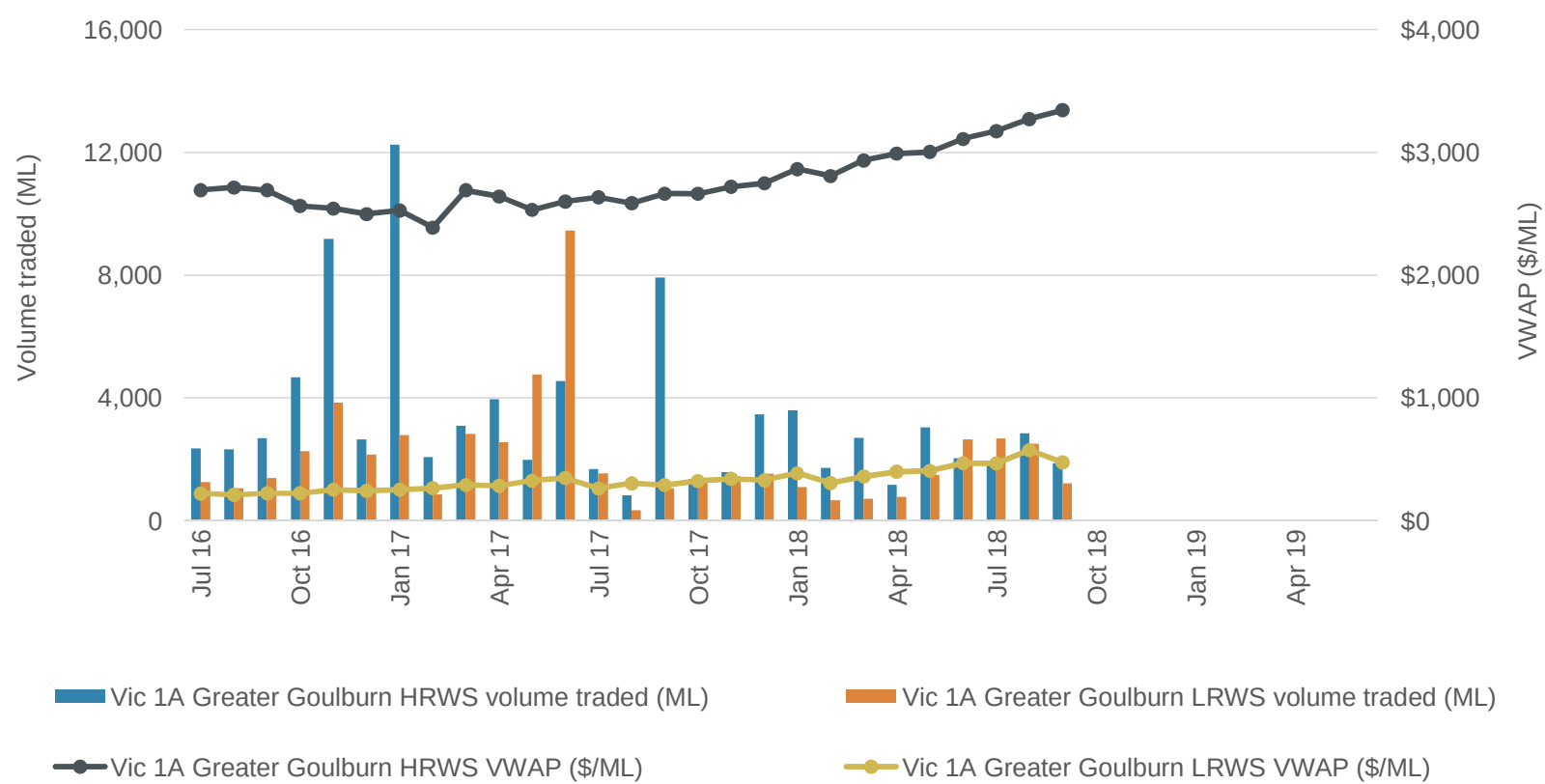
Vic 1A Greater Goulburn

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 1A Greater Goulburn HRWS	\$3,345	\$3,580	52	1,870	35.96	\$3,600 - \$4,000
Vic 1A Greater Goulburn LRWS	\$474	\$539	20	1,218	60.92	\$450 - \$550

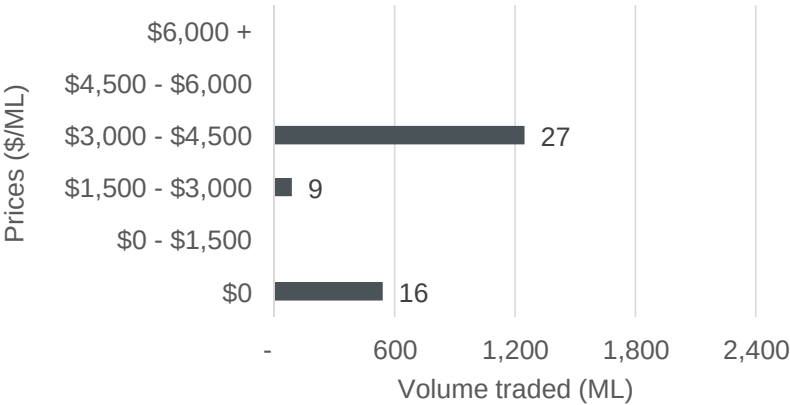
Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

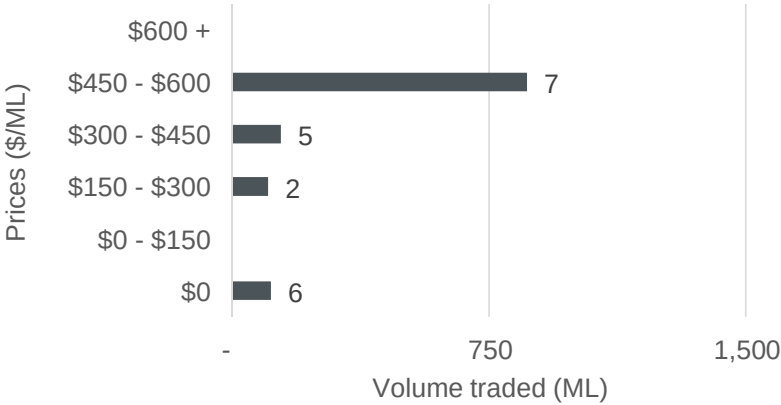


Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018 Vic 1A Greater Goulburn HRWS



Vic 1A Greater Goulburn LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

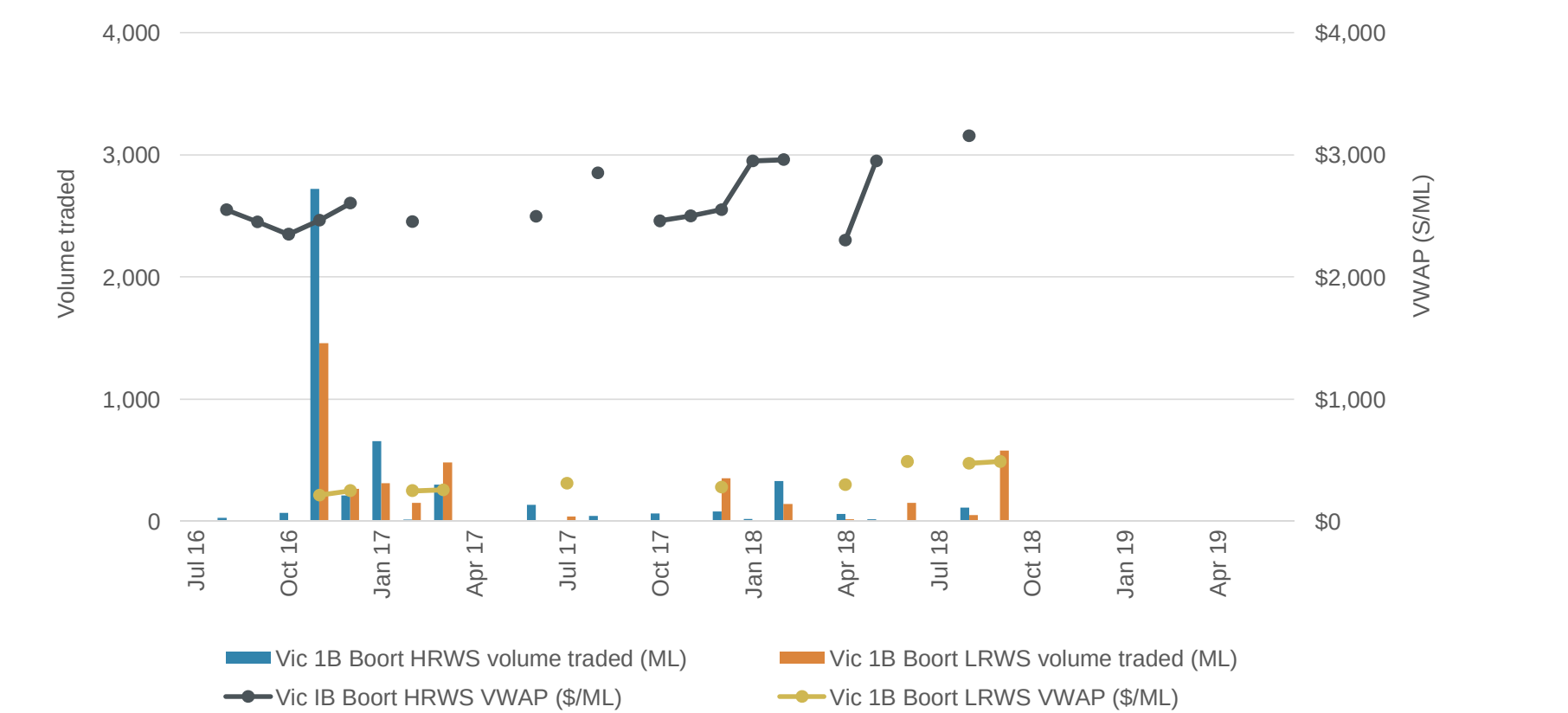
Vic 1B Boort

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 1B Boort HRWS	-	-	1	1	1.00	-
Vic 1B Boort LRWS	\$490	\$490	1	579	579.40	-

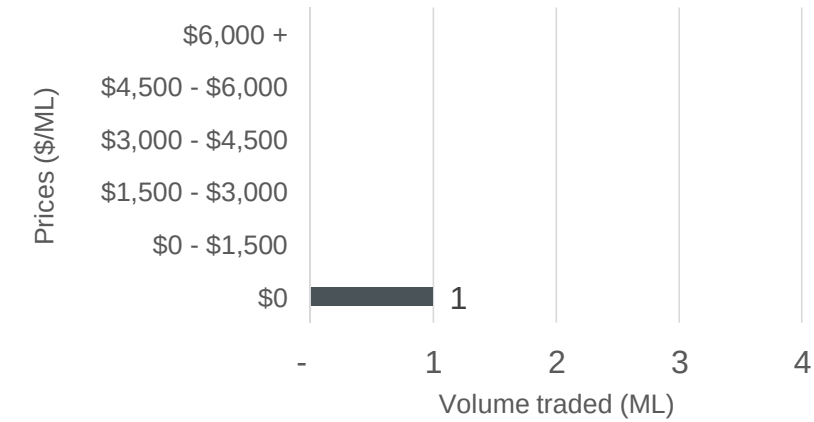
Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

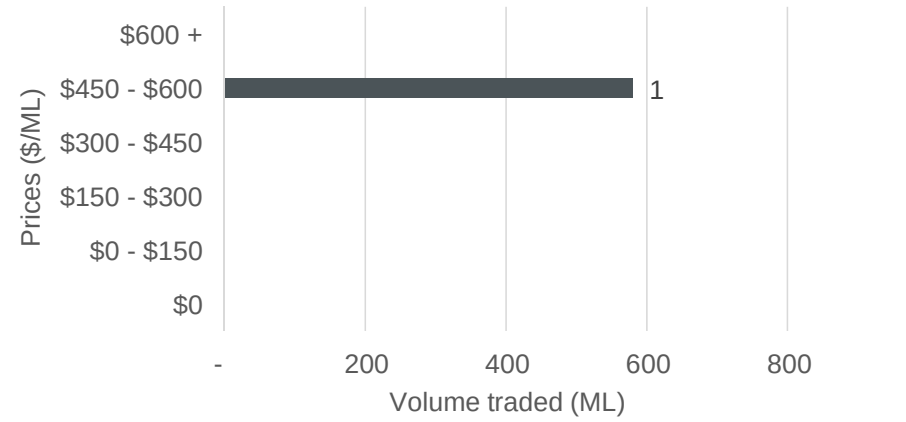


Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018 Vic 1B Boort HRWS



Vic 1B Boort LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

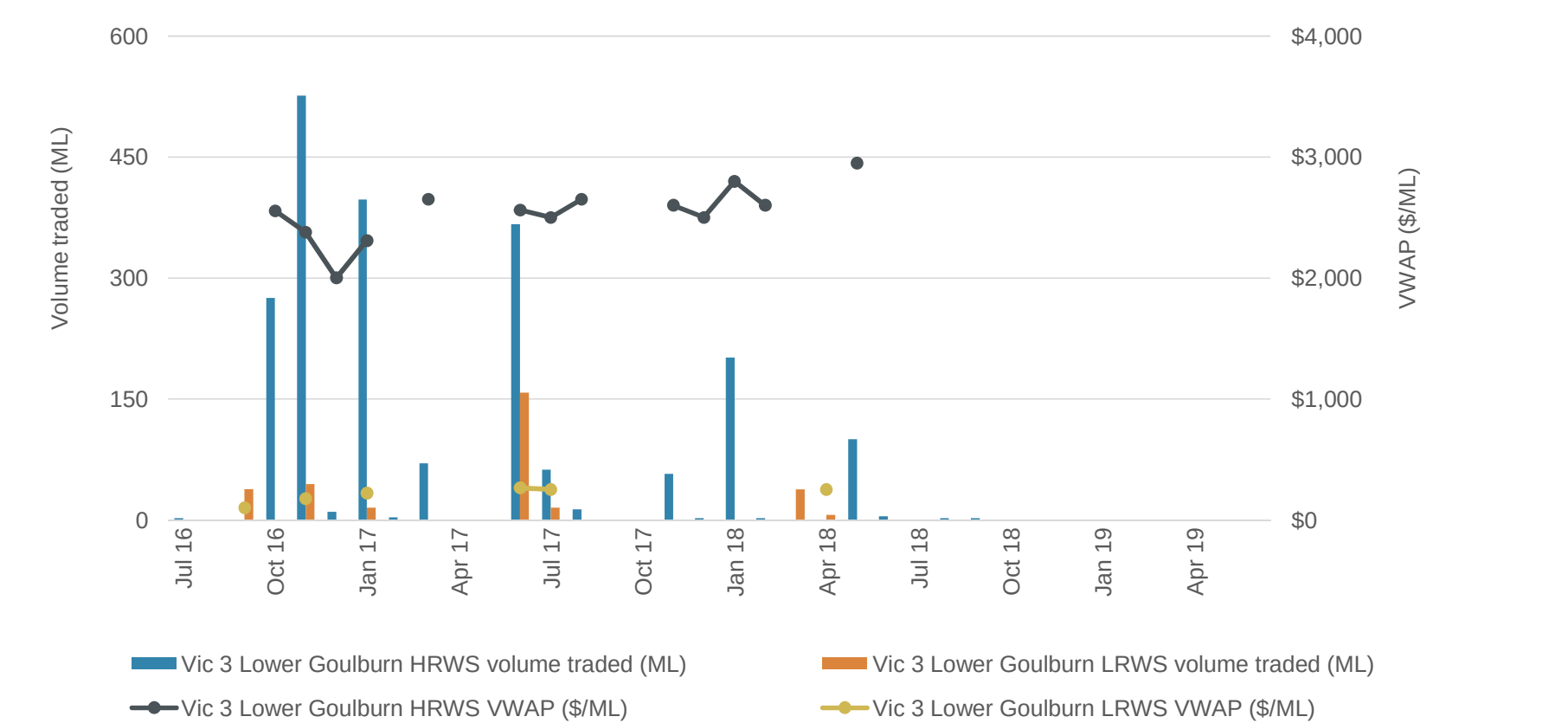
Vic 3 Lower Goulburn

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 3 Lower Goulburn HRWS	-	-	1	2	2.00	-
Vic 3 Lower Goulburn LRWS	-	-	-	-	-	-

Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

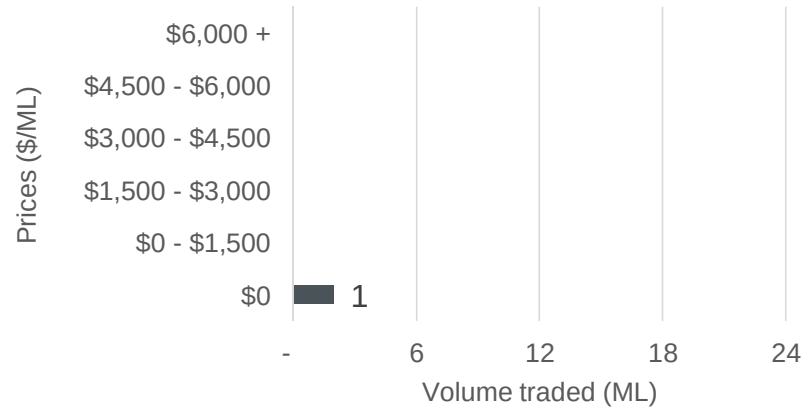
Market prices and volumes, July 2016 to June 2019



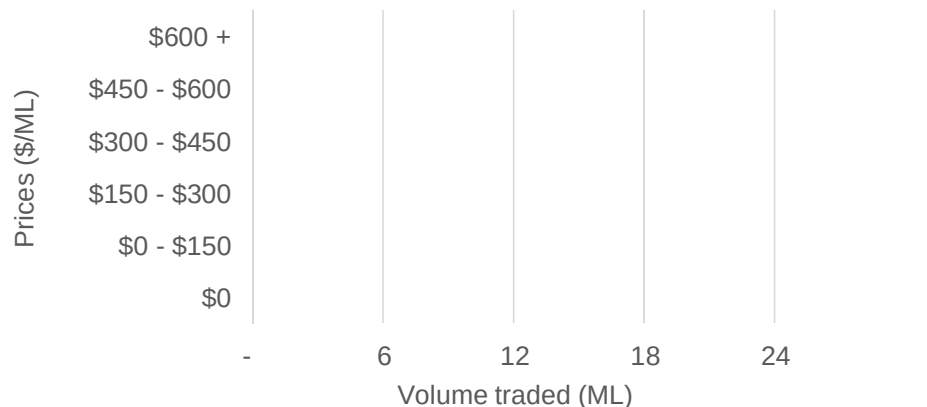
Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018

Vic 3 Lower Goulburn HRWS



Vic 3 Lower Goulburn LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

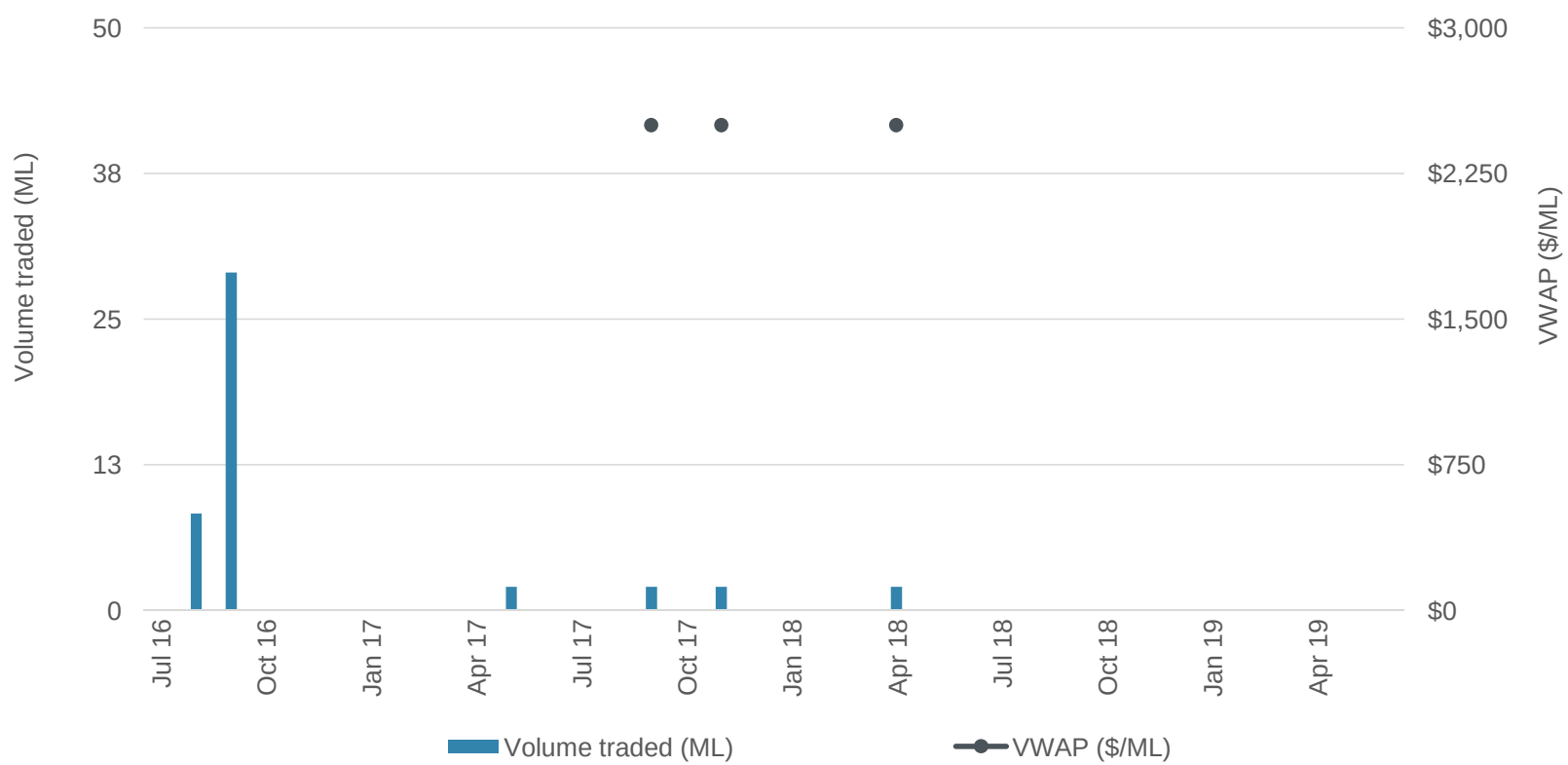
Vic 4C Lower Campaspe

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 4C Lower Campaspe HRWS	-	-	-	-	-	-

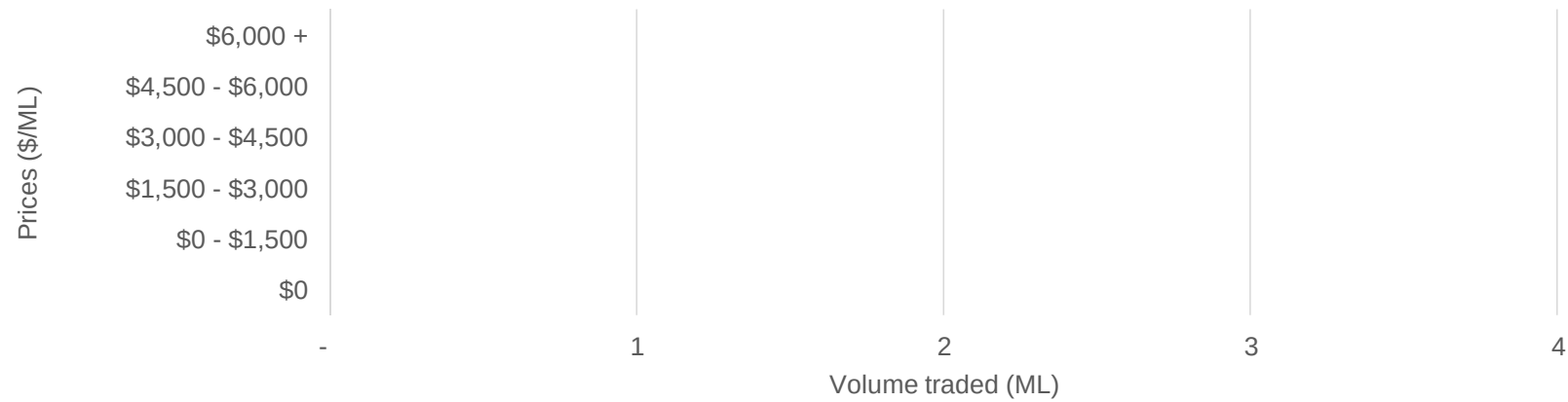
Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

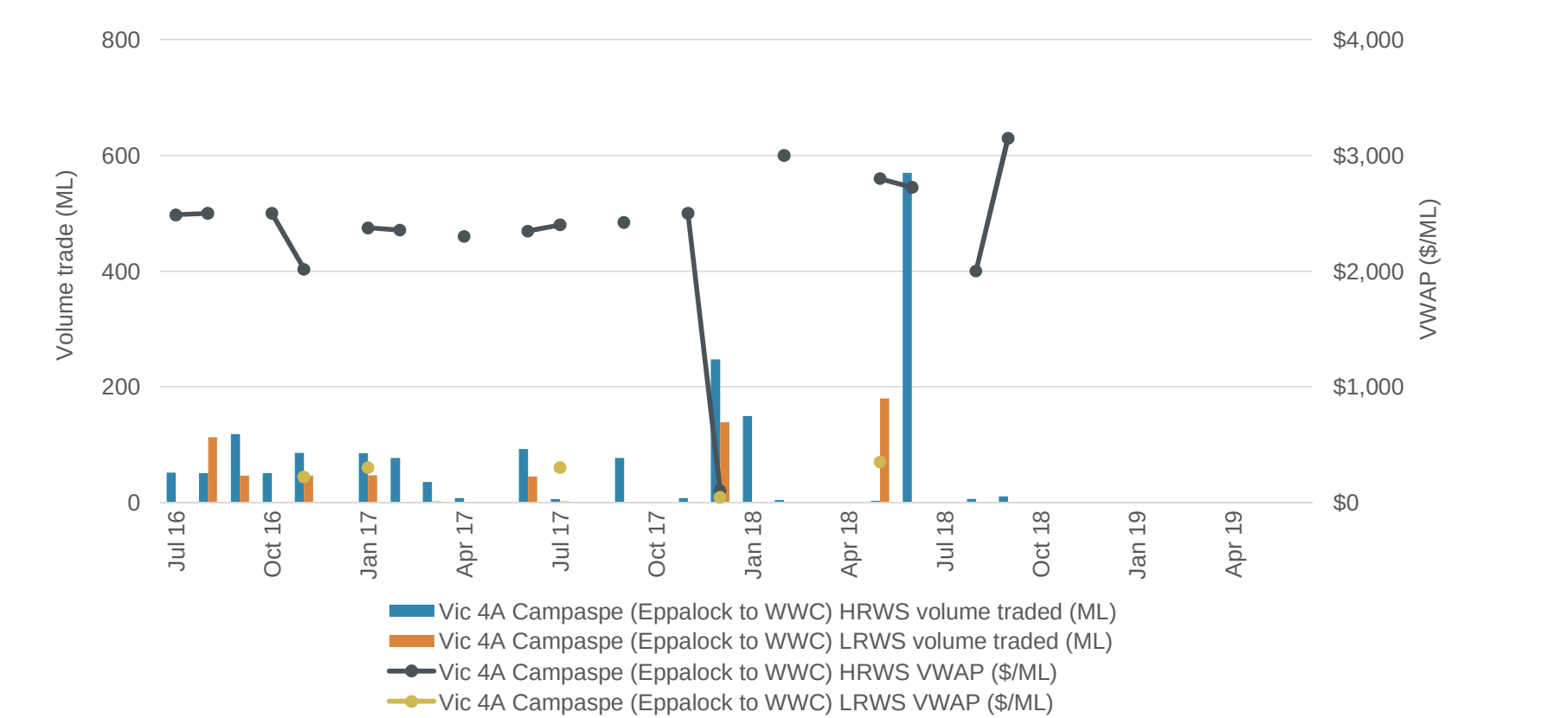
Vic 4A Campaspe (Eppalock to WWC)

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 4A Campaspe (Eppalock to WWC) HRWS	\$3,150	\$3,150	1	10	10.00	-
Vic 4A Campaspe (Eppalock to WWC) LRWS	-	-	-	-	-	-

Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

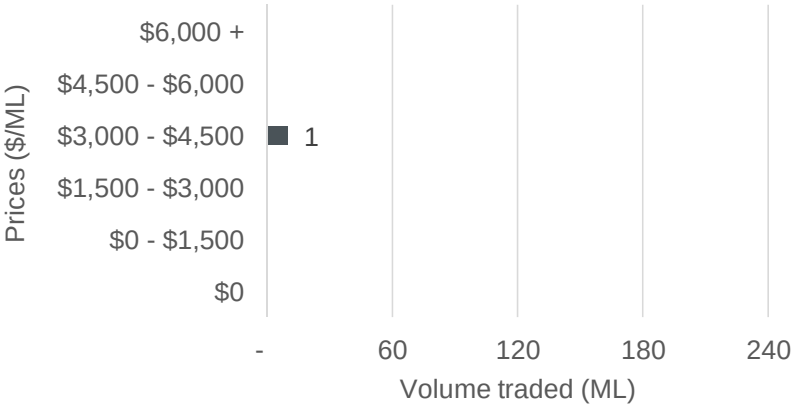
Market prices and volumes, July 2016 to June 2019



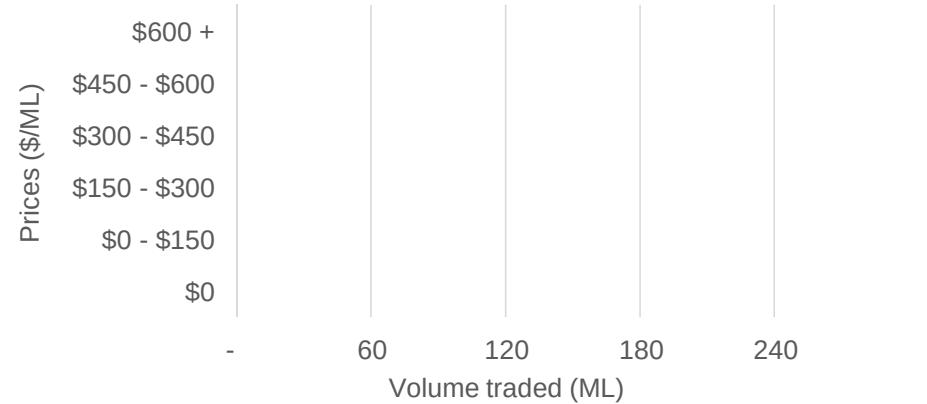
Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018

Vic 4A Campaspe (Eppalock to WWC) HRWS



Vic 4A Campaspe (Eppalock to WWC) LRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

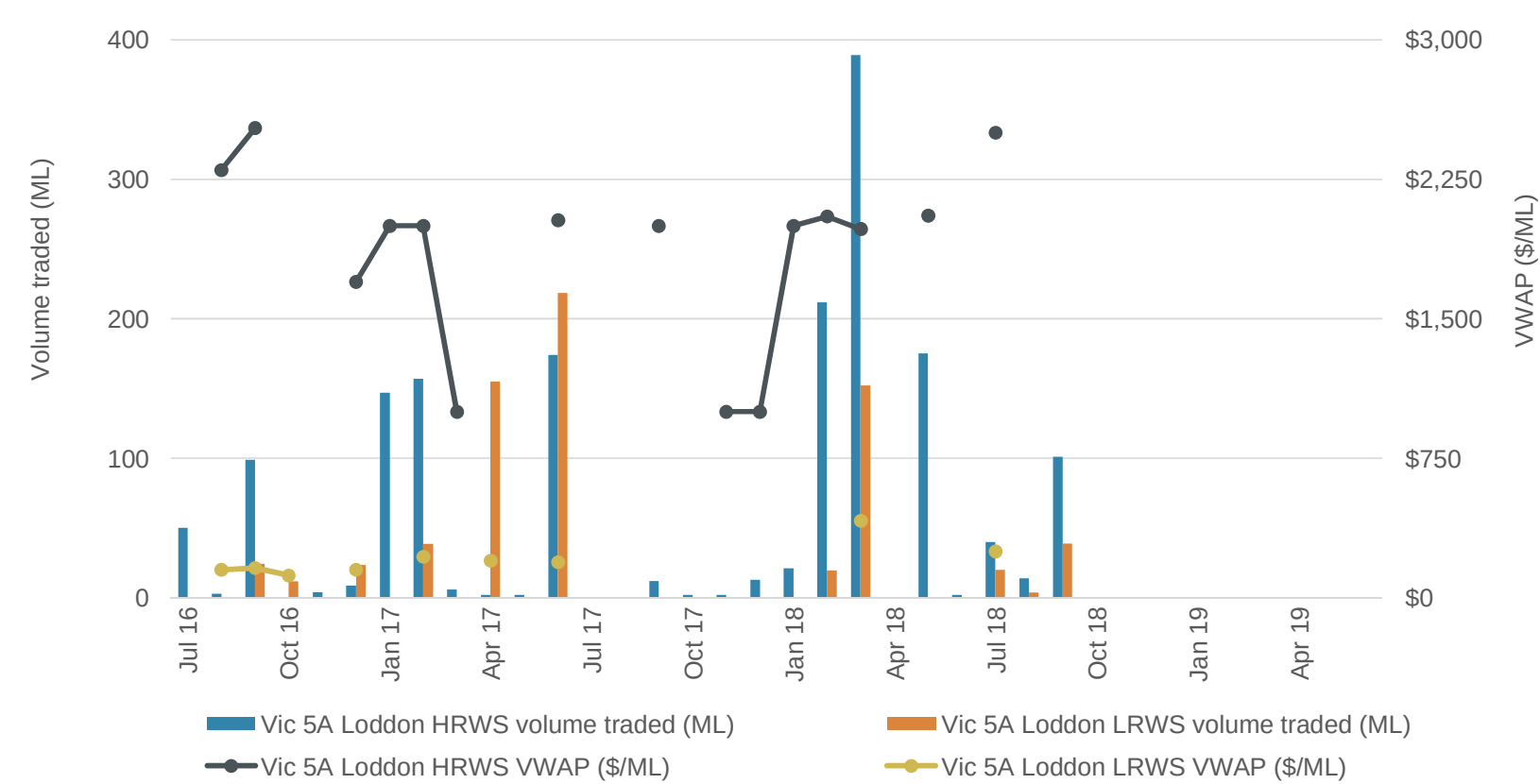
Vic 5A Loddon

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 5A Loddon HRWS	-	-	2	101	50.50	-
Vic 5A Loddon LRWS	-	-	1	39	39.00	-

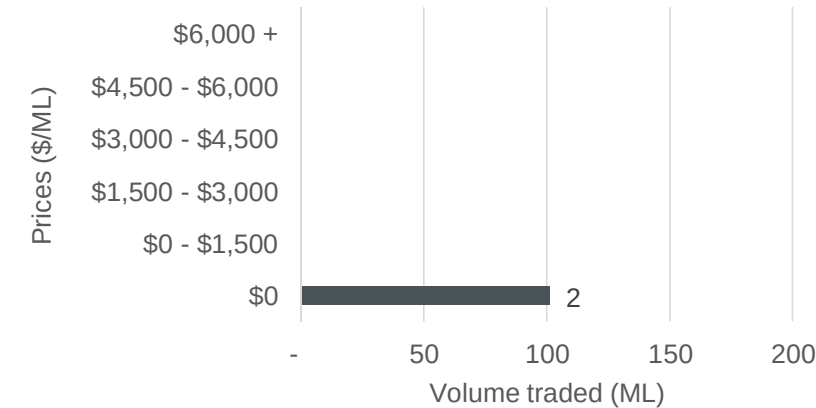
Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the VIC Water Register.

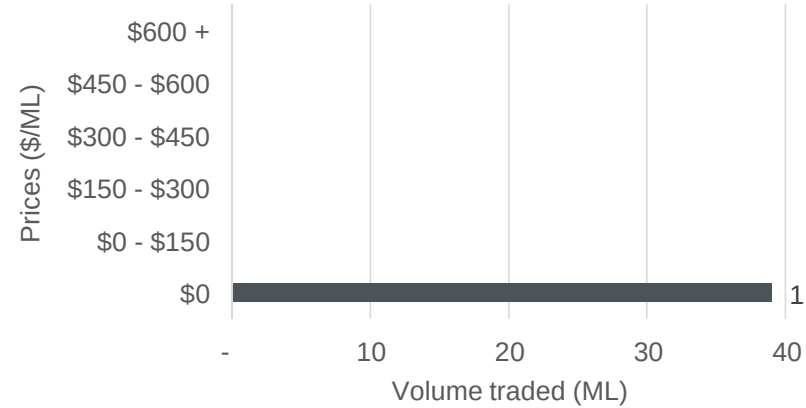
Market price range, September 2018 Vic 5A Loddon HRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

Vic 5A Loddon LRWS



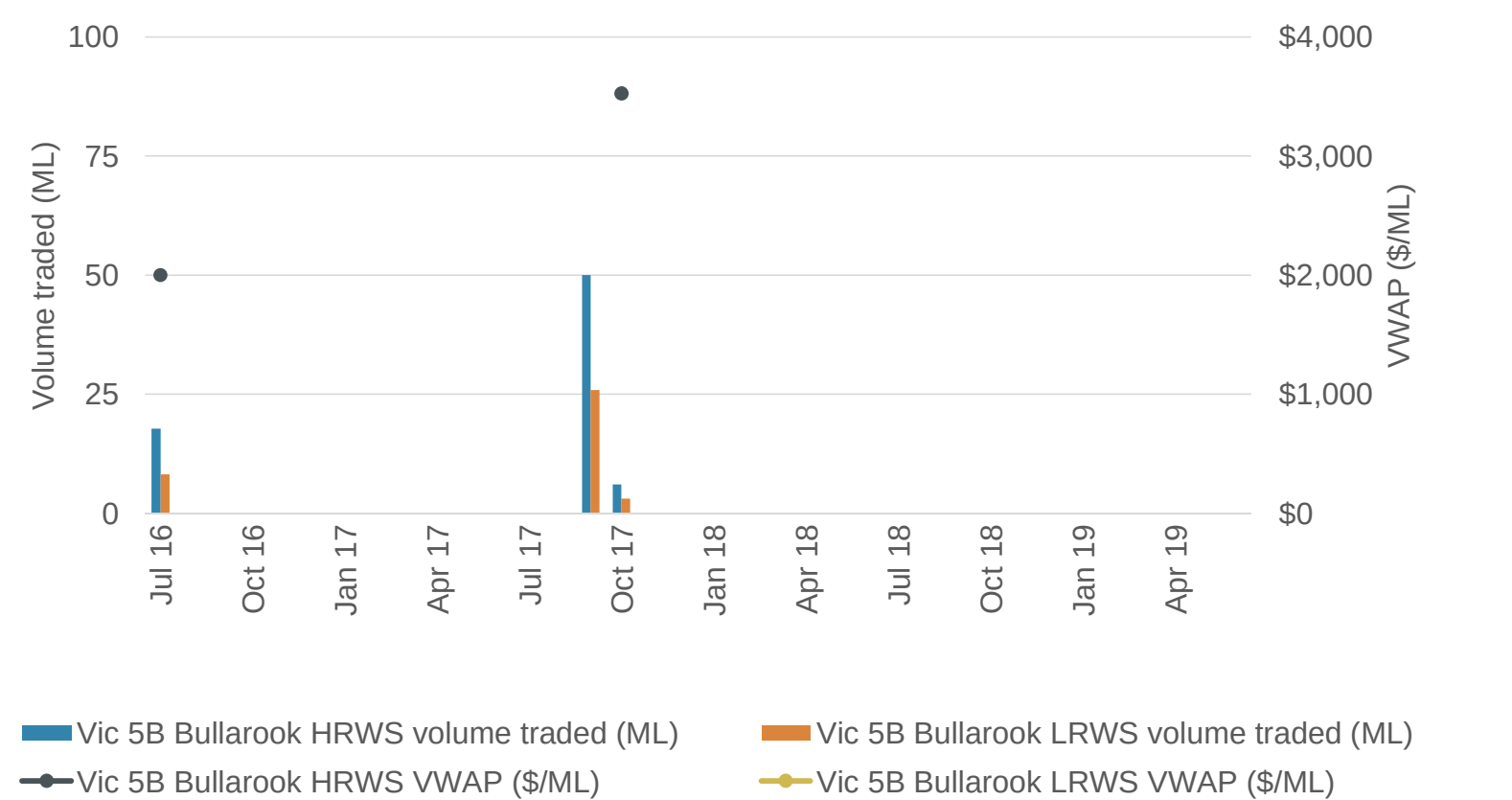
Vic 5B Bullarook

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
Vic 5B Bullarook HRWS	-	-	-	-	-	-
Vic 5B Bullarook LRWS	-	-	-	-	-	-

Source: Aither, 2018. Based on the VIC Water Register and quotes sourced from water brokers.

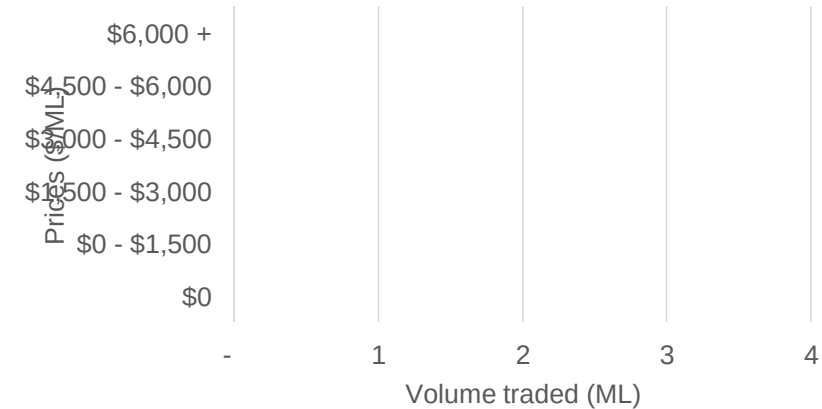
Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the VIC Water Register.

Market price range, September 2018

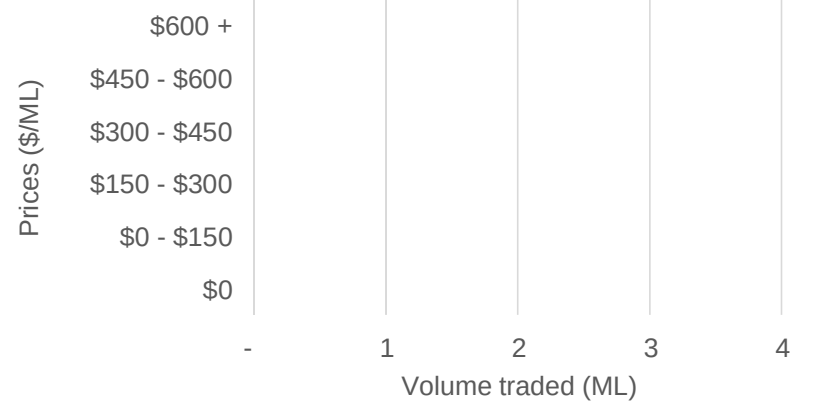
Vic 5B Bullarook HRWS



Source: Aither, 2018. Based on the VIC Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

Vic 5B Bullarook LRWS



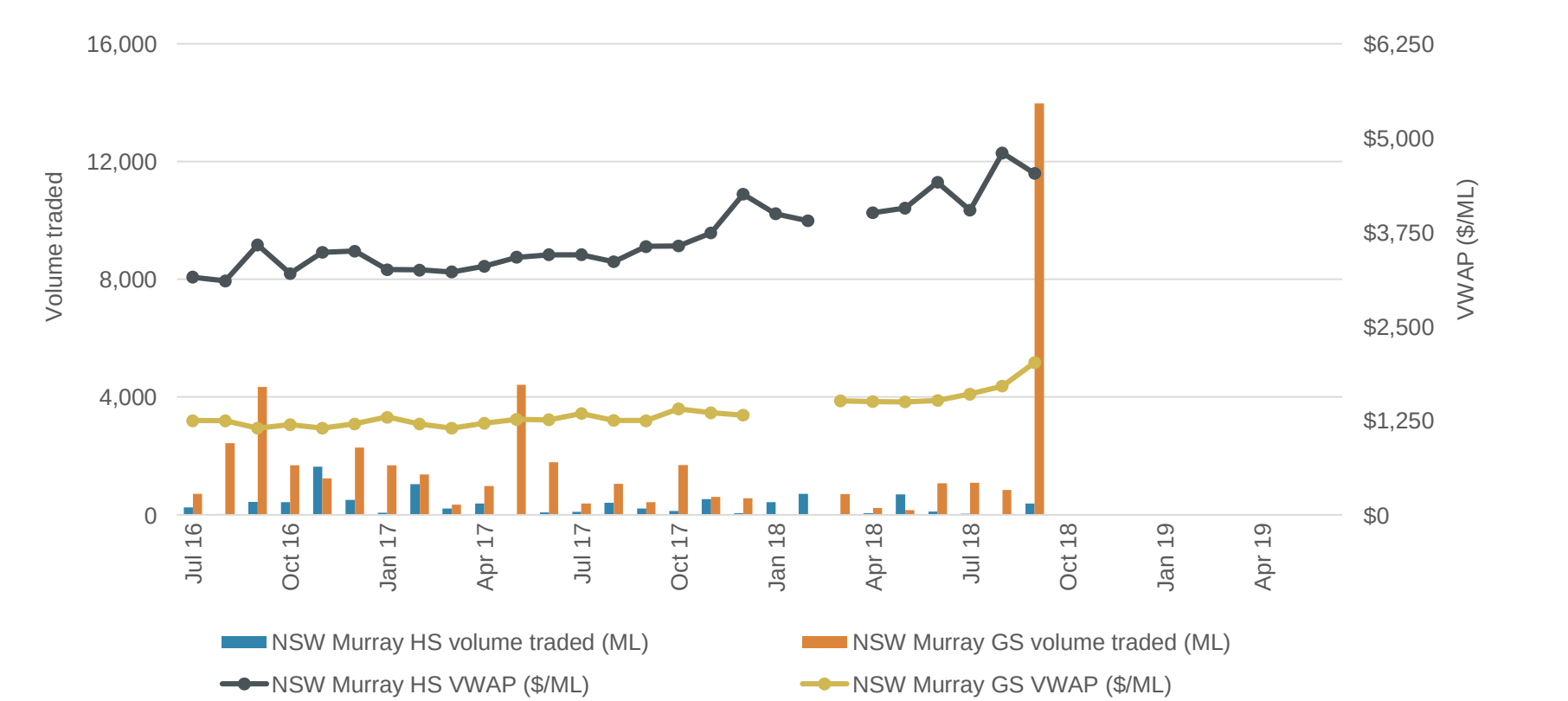
NSW Murray

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Murray HS	\$4,529	\$4,600	7	388	55.43	\$4,900 - \$5,600
NSW Murray GS	\$2,021	\$2,075	12	13,976	1,164.67	\$1,750 - \$2,000

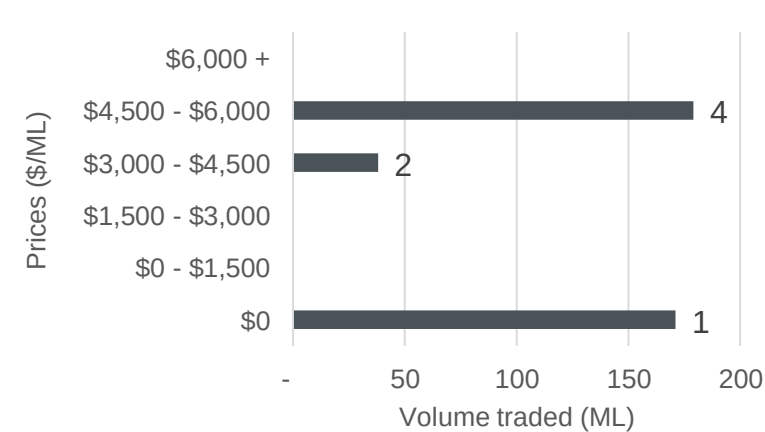
Source: Aither, 2018. Based on the NSW Water Register, and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

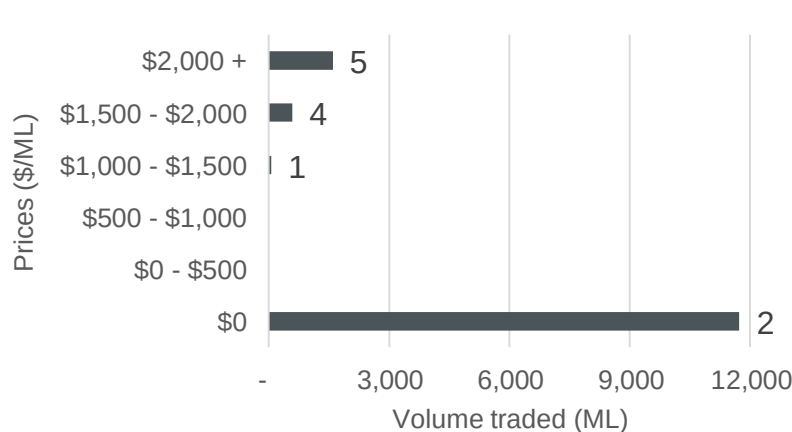


Source: Aither, 2018. Based on the NSW Water Registers.

Market price range, September 2018 NSW Murray HS



NSW Murray GS



Source: Aither, 2018. Based on the NSW Water Registers.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

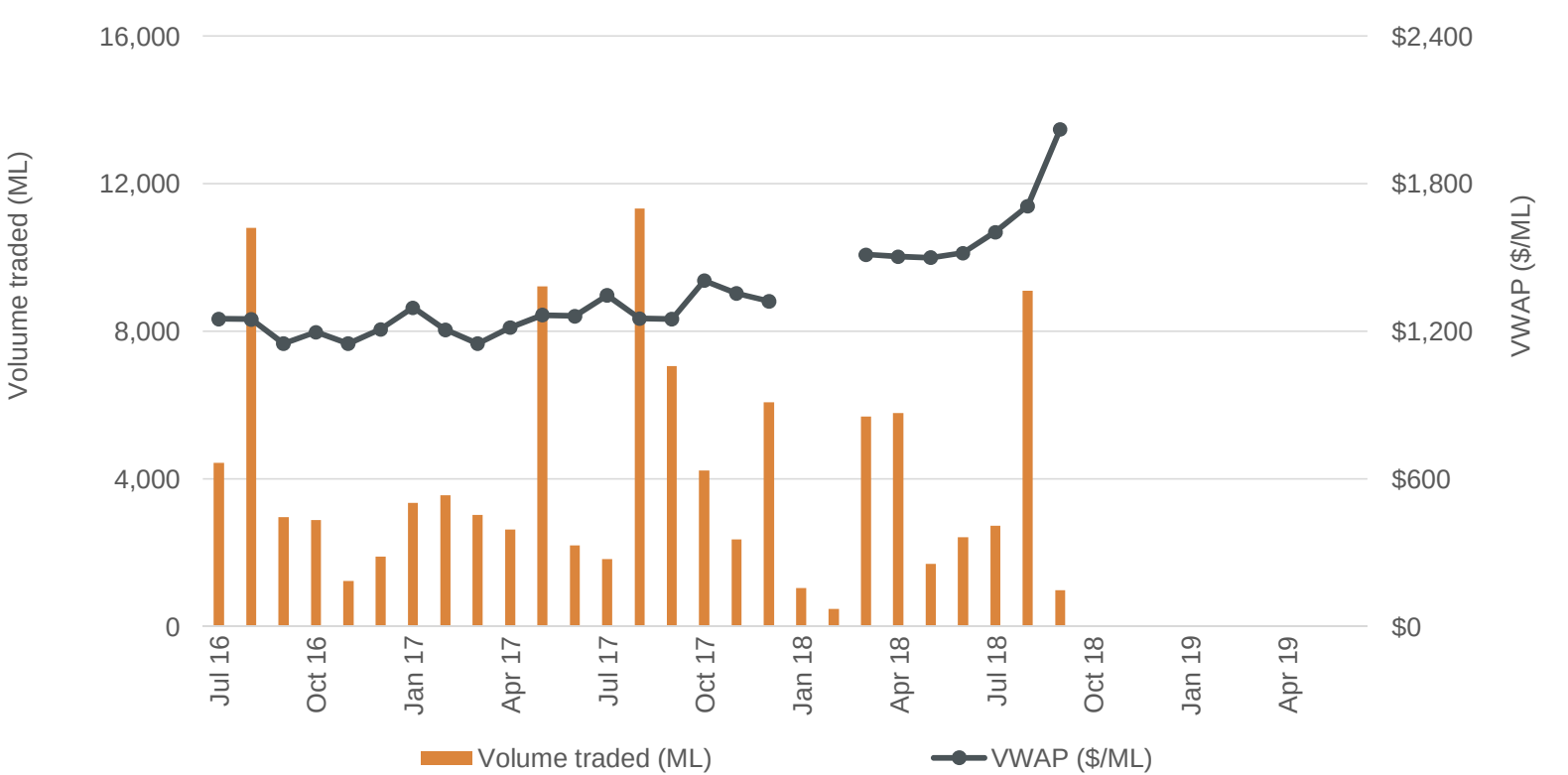
NSW Murray Irrigation Limited

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Murray Irrigation Limited GS	\$2,021	\$2,075	3	983	327.67	-

Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.
Note: As trade prices within NSW Murray Irrigation GS are not reported Aither has presented NSW Murray GS on river prices instead given the common characteristics that these entitlements share.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

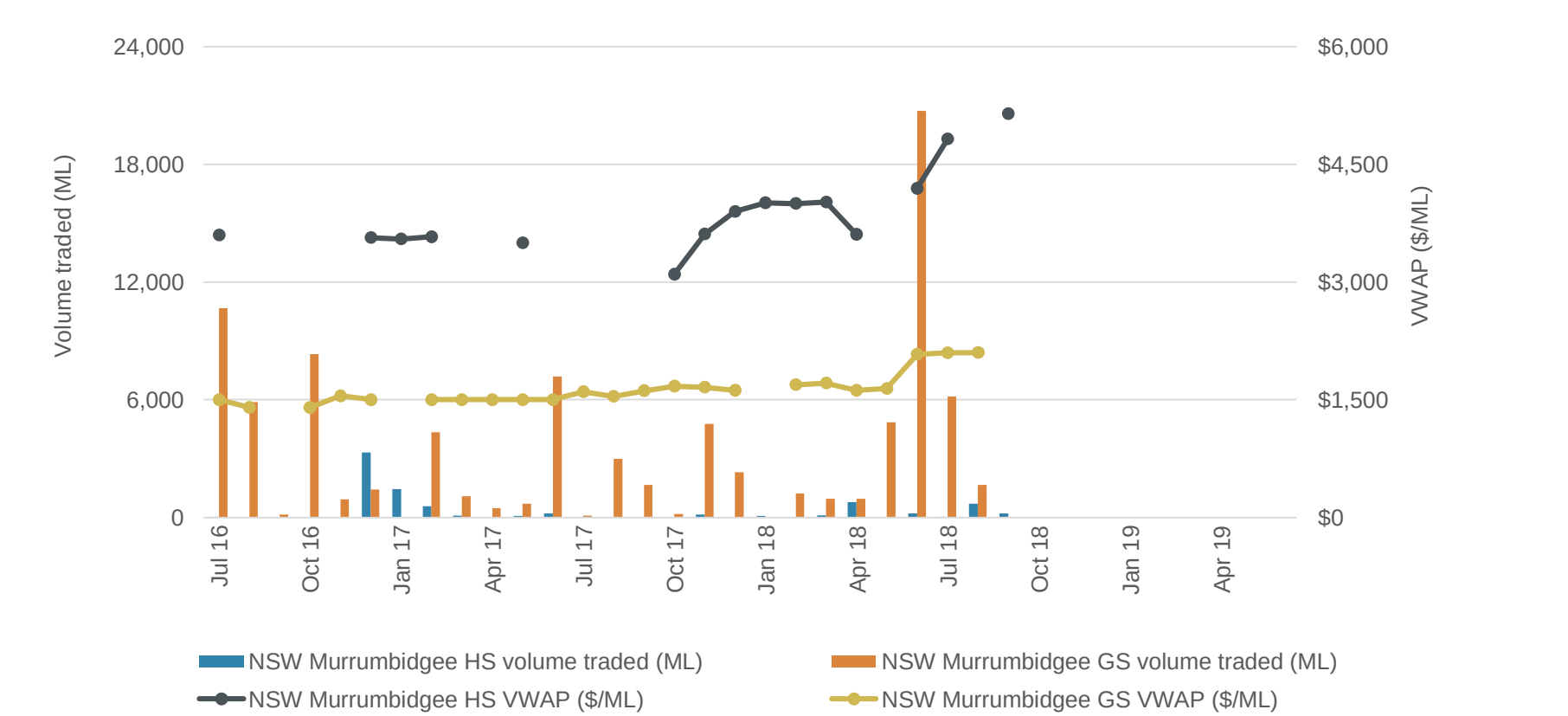
NSW Murrumbidgee

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Murrumbidgee HS	\$5,146	\$5,600	4	195	48.75	\$5,100 - \$5,600
NSW Murrumbidgee GS	-	-	-	-	-	\$2,050 - \$2,150

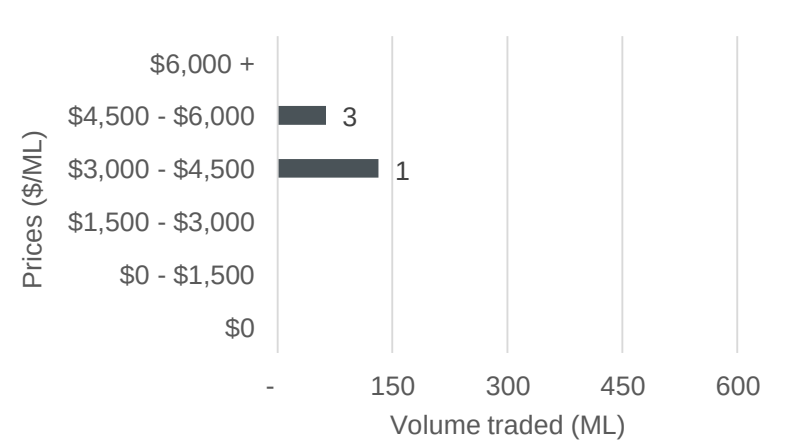
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

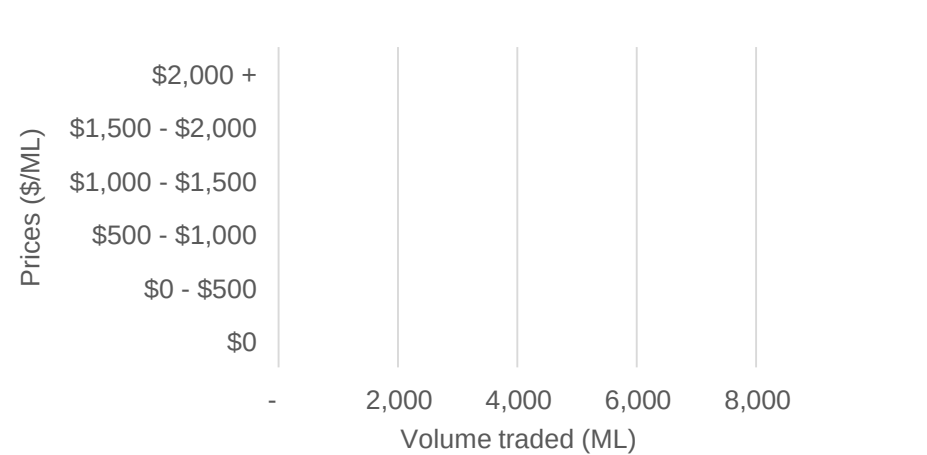


Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018 NSW Murrumbidgee HS



NSW Murrumbidgee GS



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

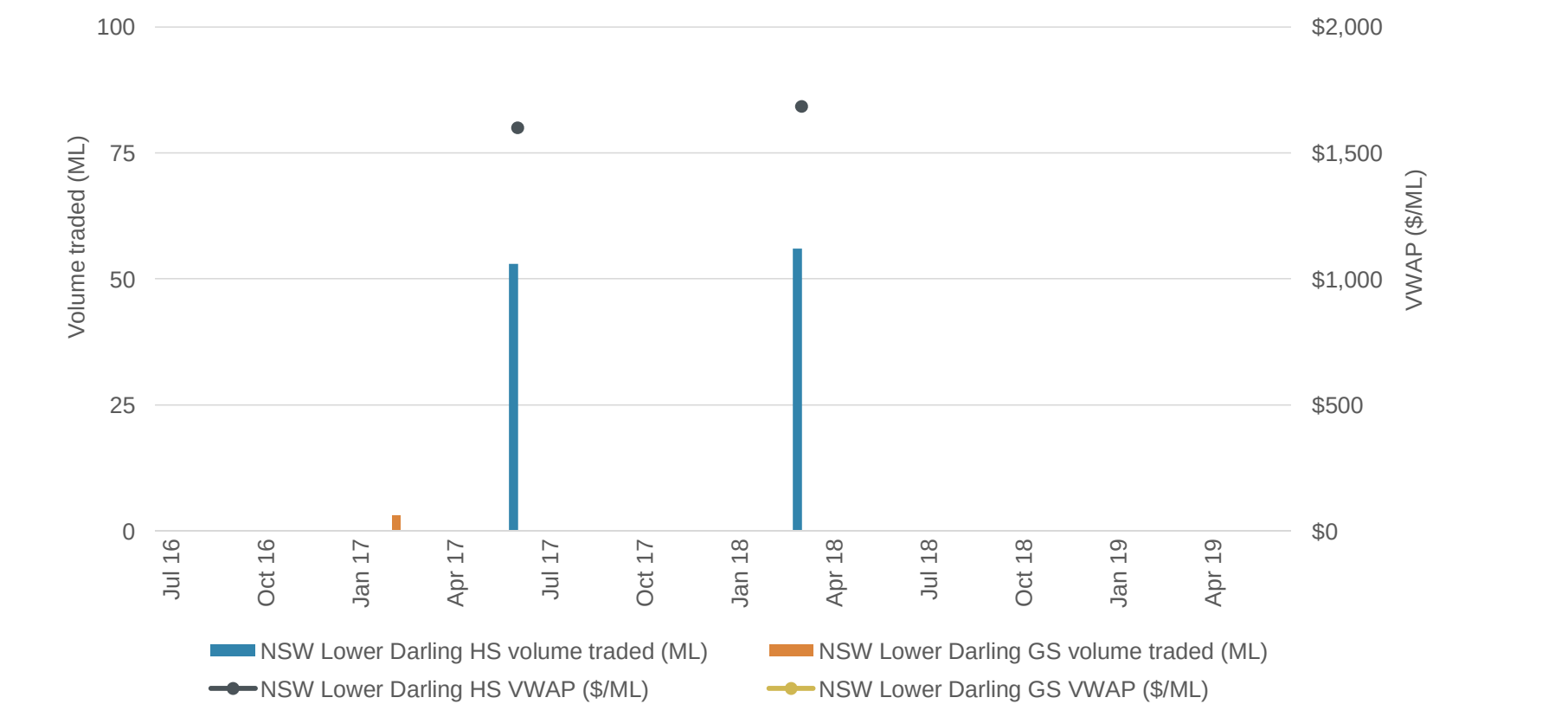
NSW Lower Darling

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Lower Darling HS	-	-	-	-	-	-
NSW Lower Darling GS	-	-	-	-	-	-

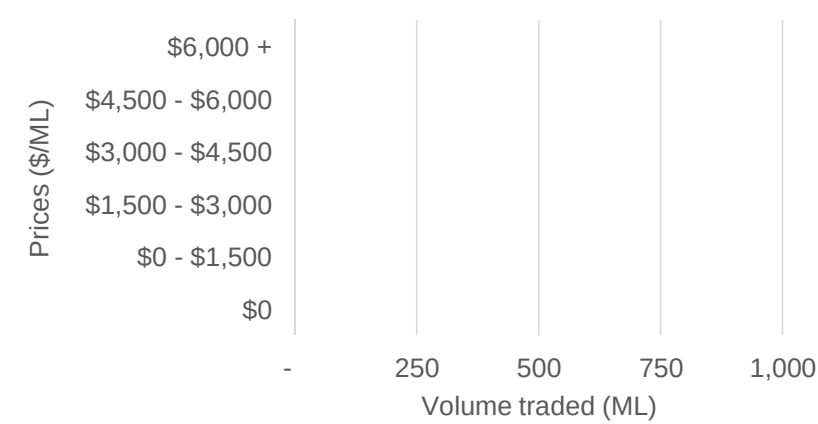
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

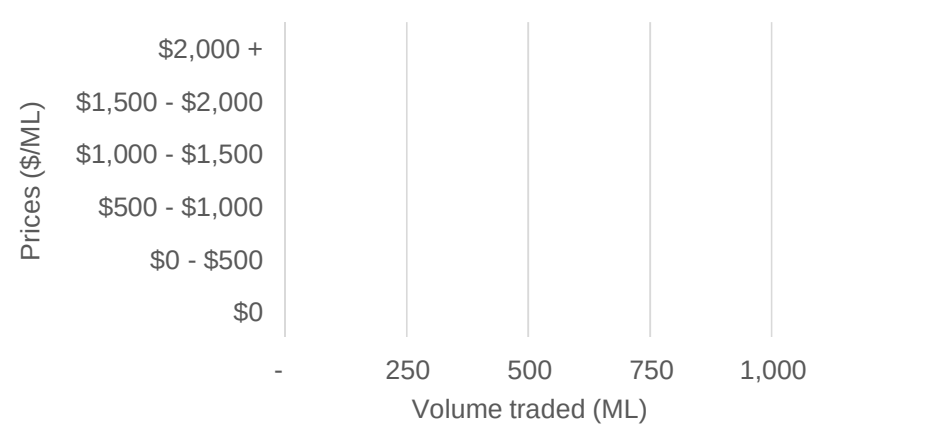


Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018 NSW Lower Darling HS



NSW Lower Darling GS



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

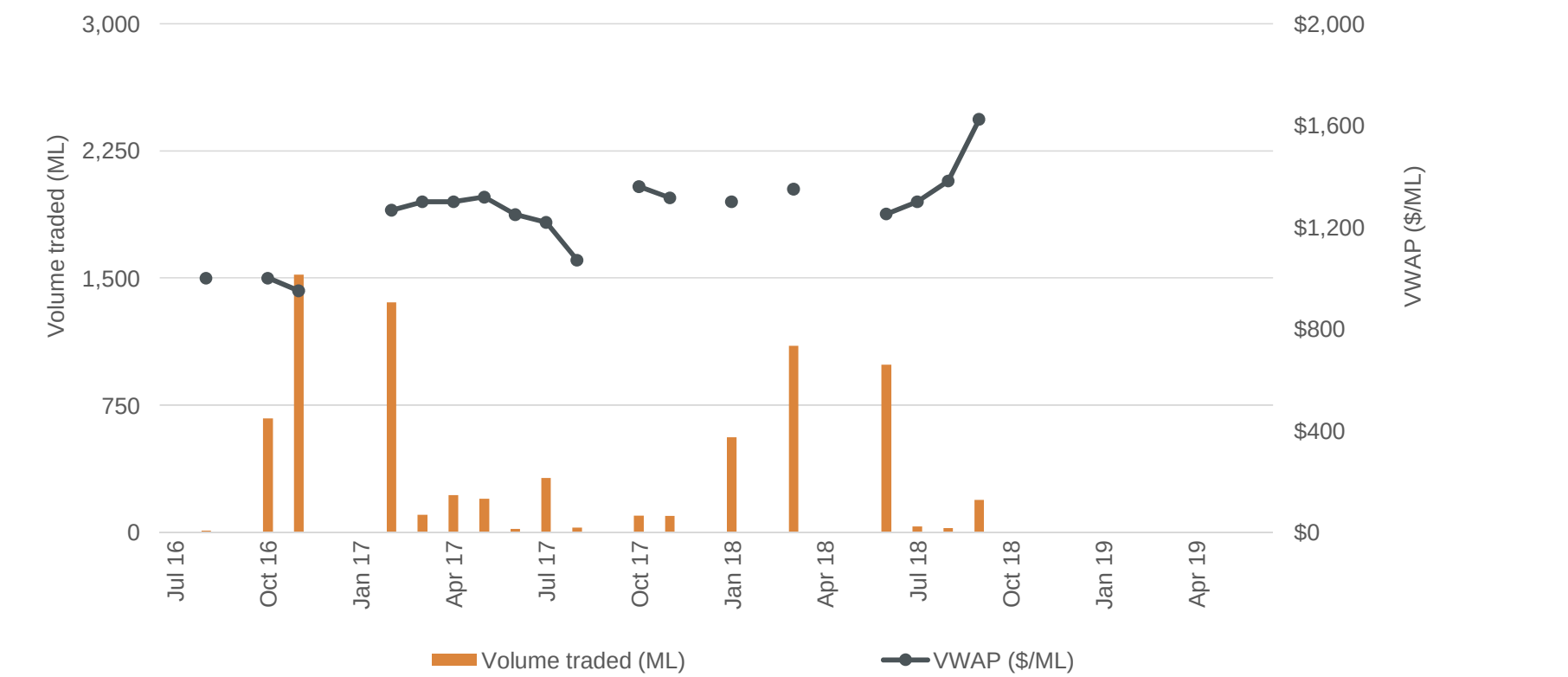
NSW Macquarie

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Macquarie GS	\$1,624	\$1,640	3	193	64.33	-

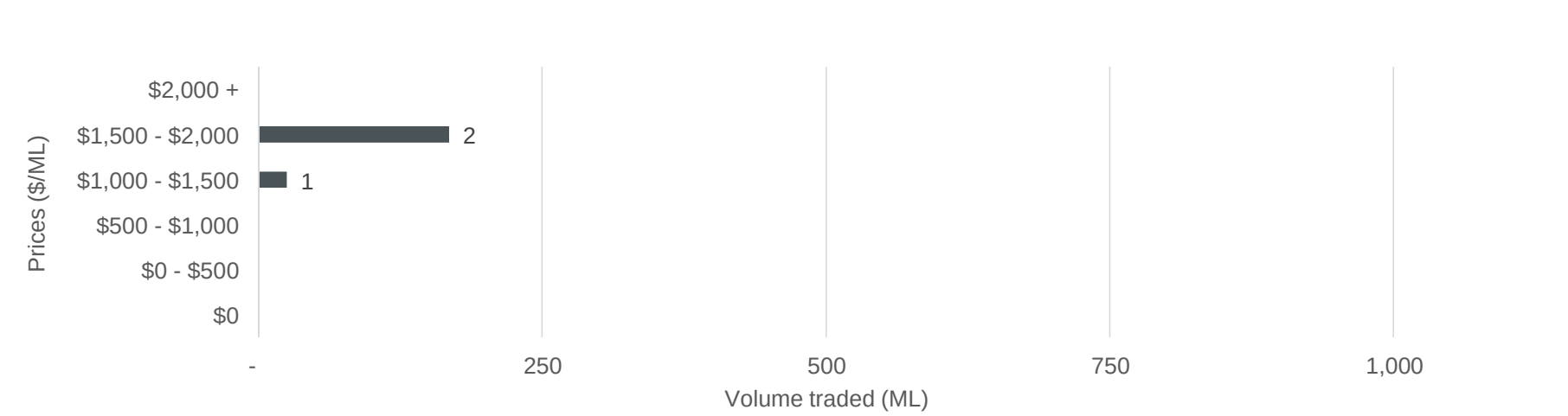
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

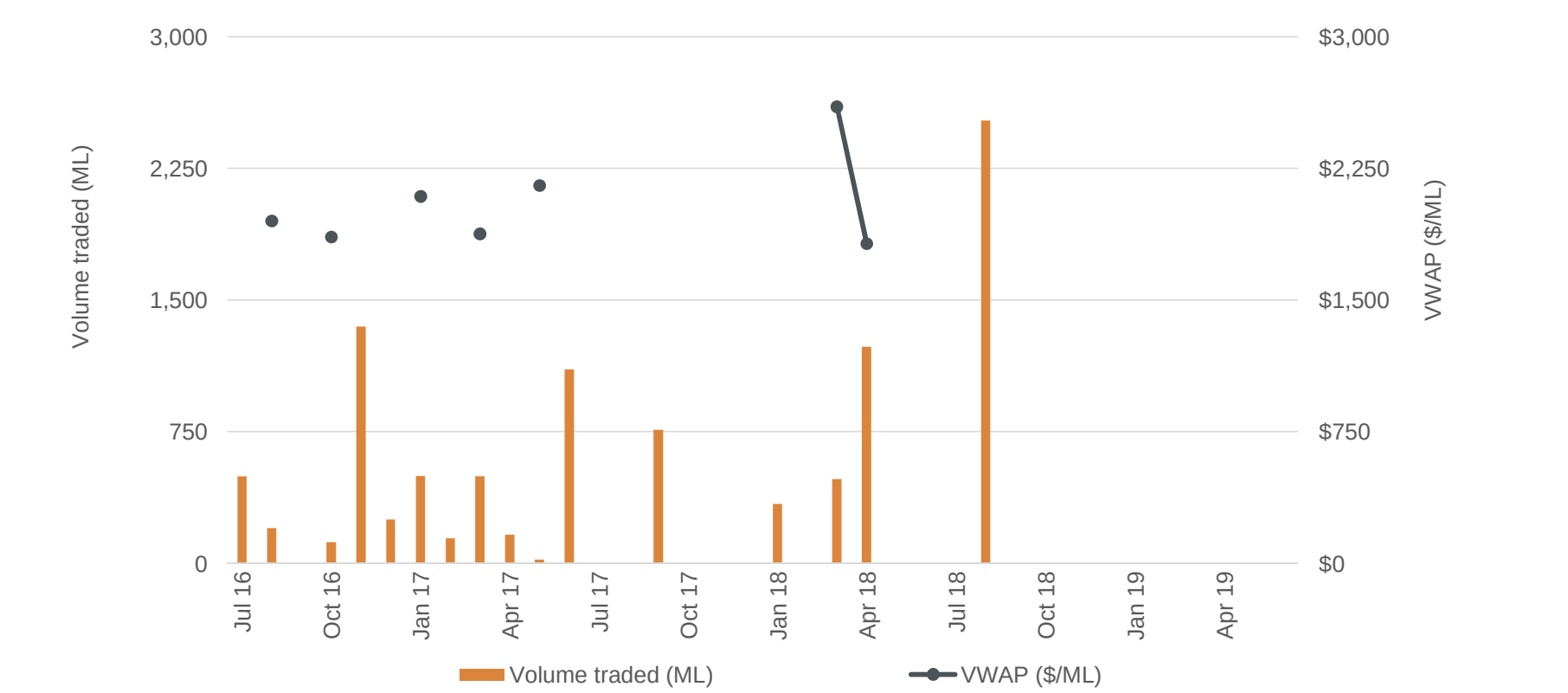
NSW Lower Namoi

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Lower Namoi GS	-	-	-	-	-	-

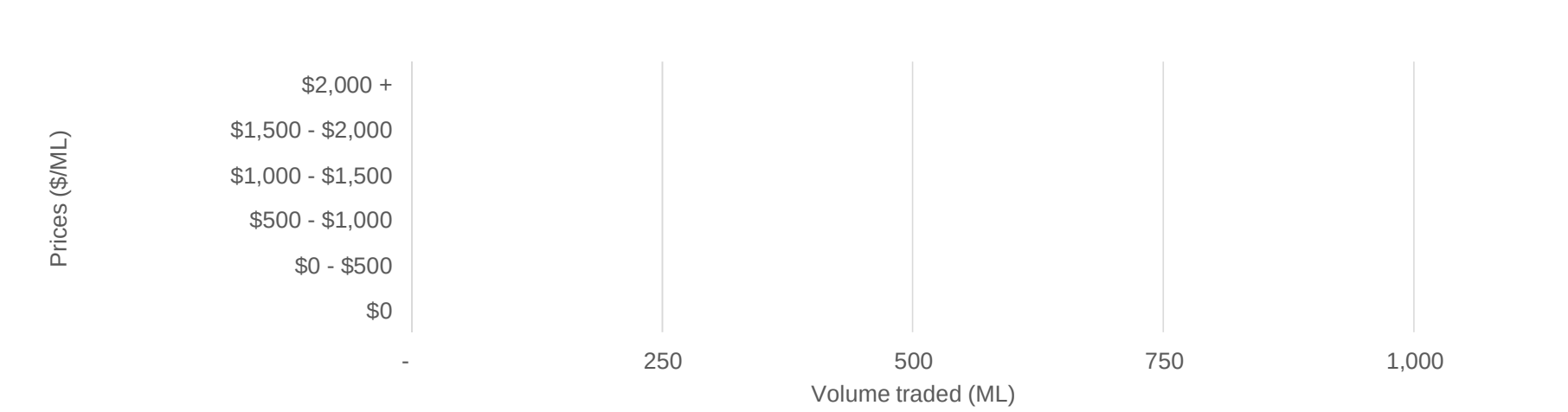
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Registers.

Market price range, September 2018



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

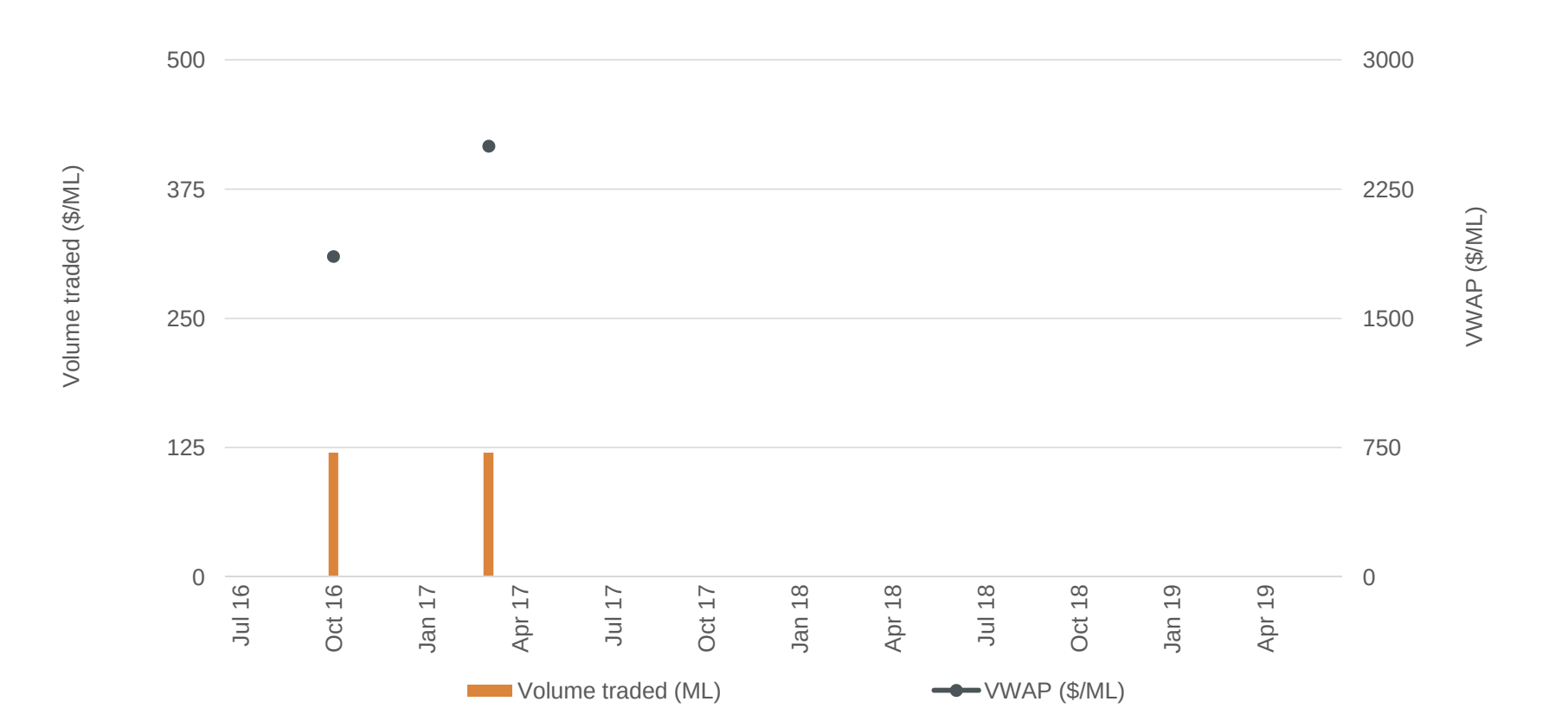
NSW Upper Namoi

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Upper Namoi GS	-	-	-	-	-	-

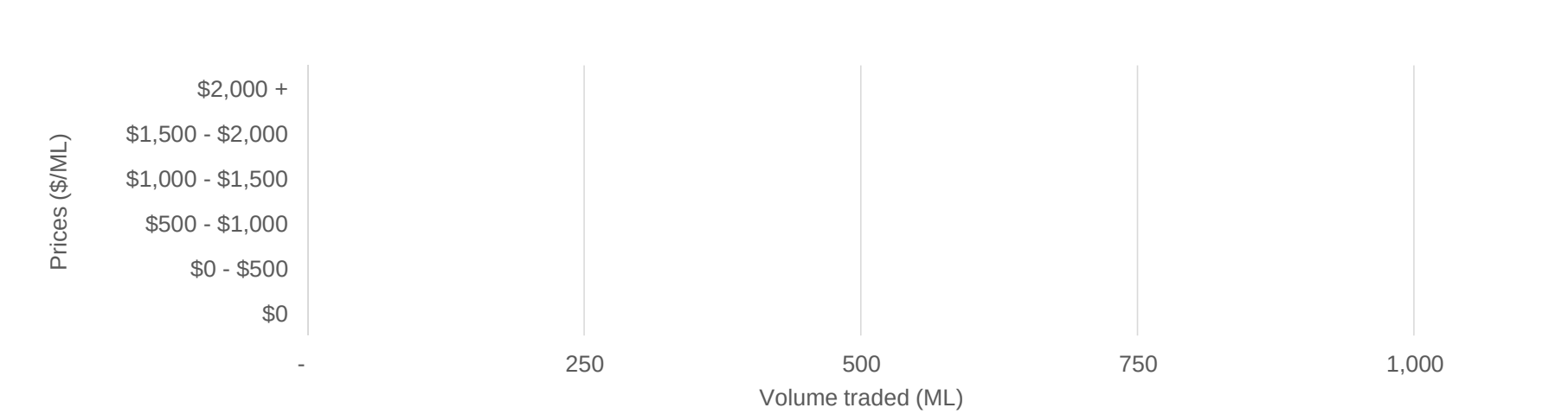
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

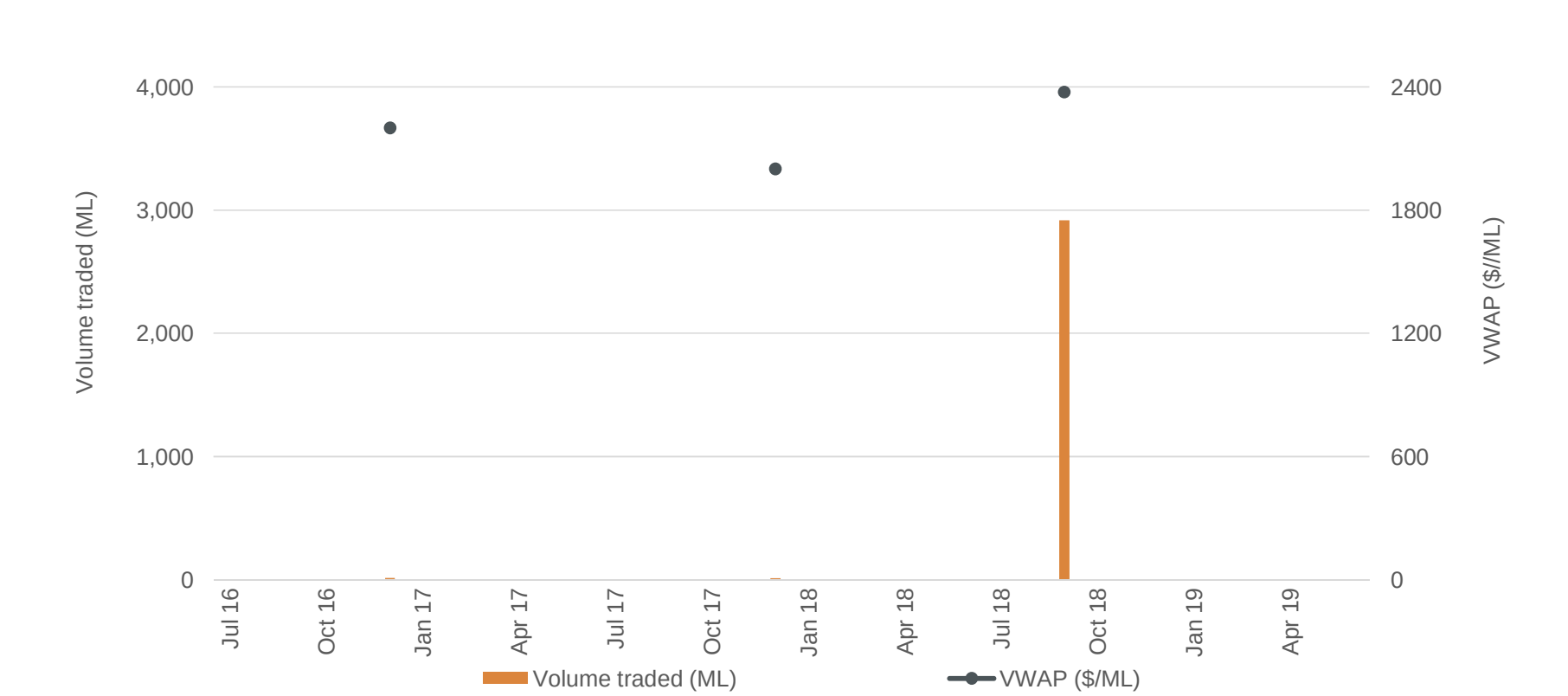
NSW Gwydir

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Gwydir GS	\$2,374	\$2,374	1	2,916	2,916.00	-

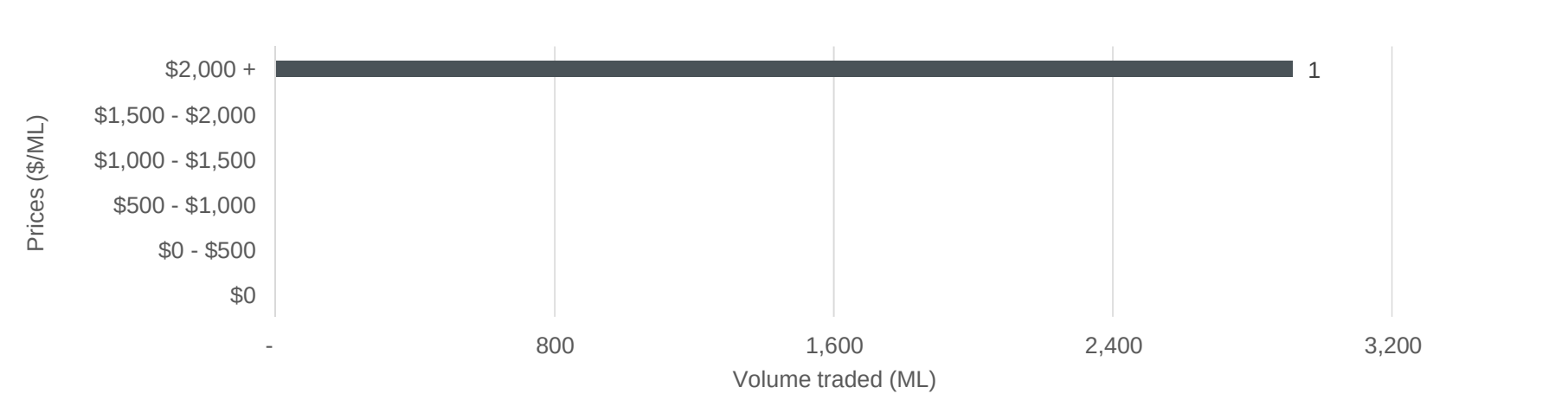
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

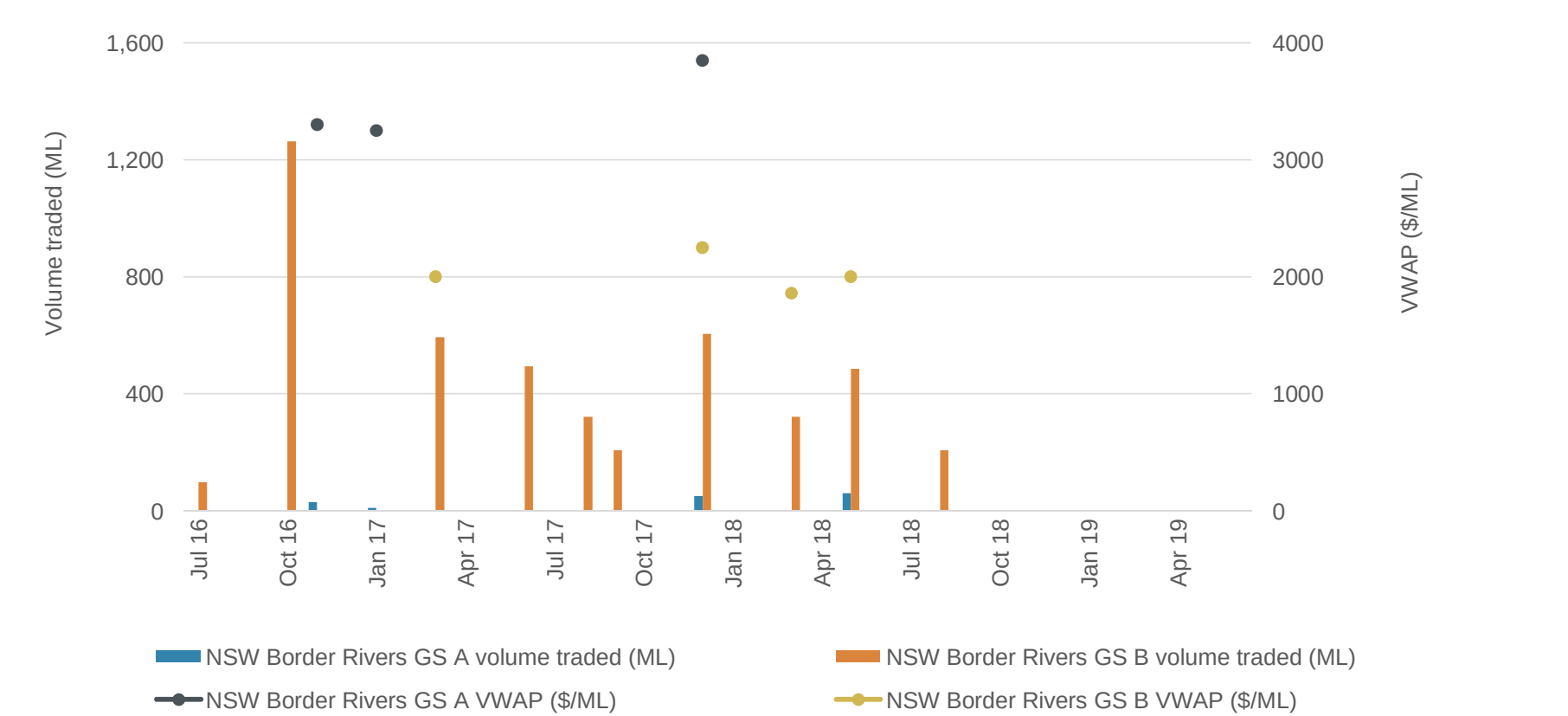
NSW Border Rivers

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Border Rivers GS A	-	-	-	-	-	-
NSW Border Rivers GS B	-	-	-	-	-	-

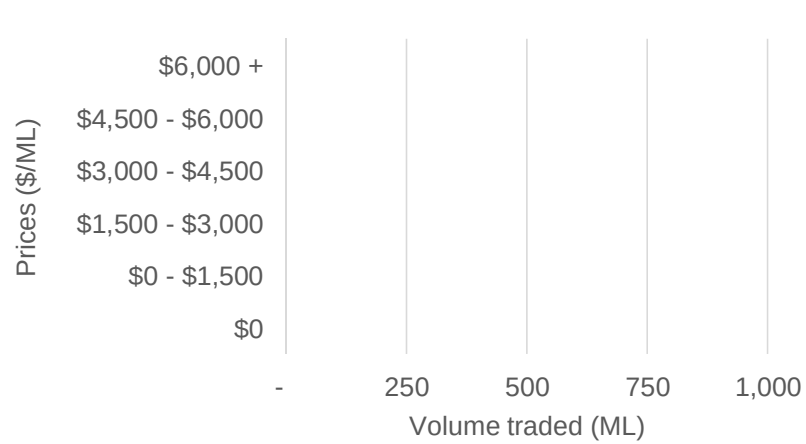
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019

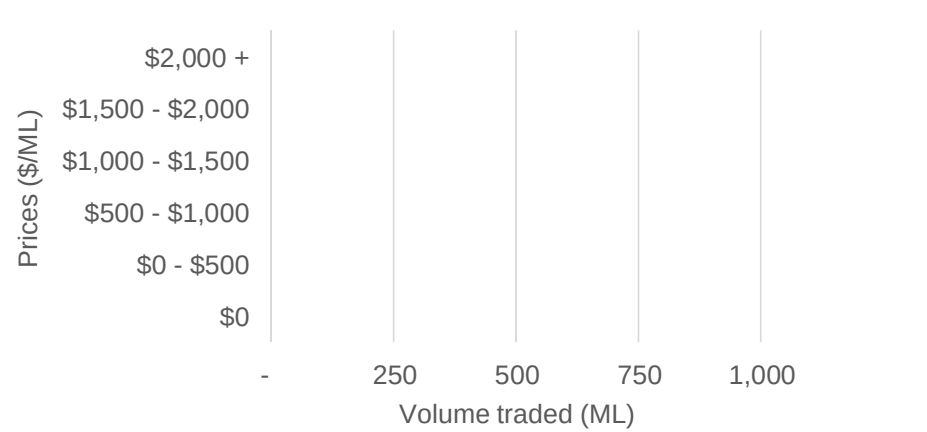


Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018 NSW Border Rivers GS A



NSW Border Rivers GS B



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

NSW Barwon-Darling Unregulated

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Barwon-Darling Unregulated A	-	-	-	-	-	-
NSW Barwon-Darling Unregulated B	-	-	-	-	-	-
NSW Barwon-Darling Unregulated C	-	-	-	-	-	-

Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018

NSW Barwon-Darling Unregulated A



NSW Barwon-Darling Unregulated B



NSW Barwon-Darling Unregulated C



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

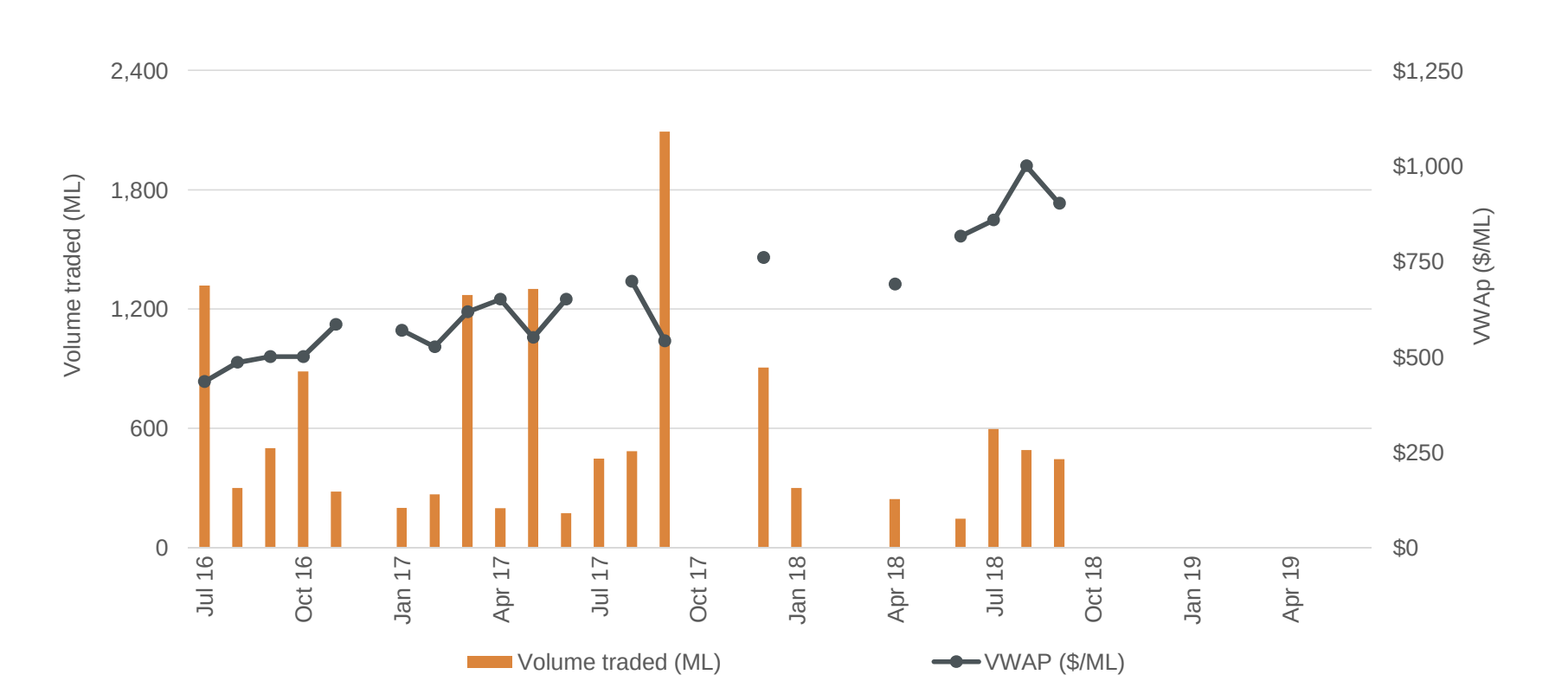
NSW Lachlan

Entitlement market overview, September 2018

Entitlement type	September 2018 VWAP (\$/ML)	September 2018 Maximum Price (\$/ML)	September 2018 Number of Transfers	September 2018 Volume of Transfers (ML)	September 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
NSW Lachlan GS	\$902	\$1,100	3	445	148.33	\$900 - \$1,000

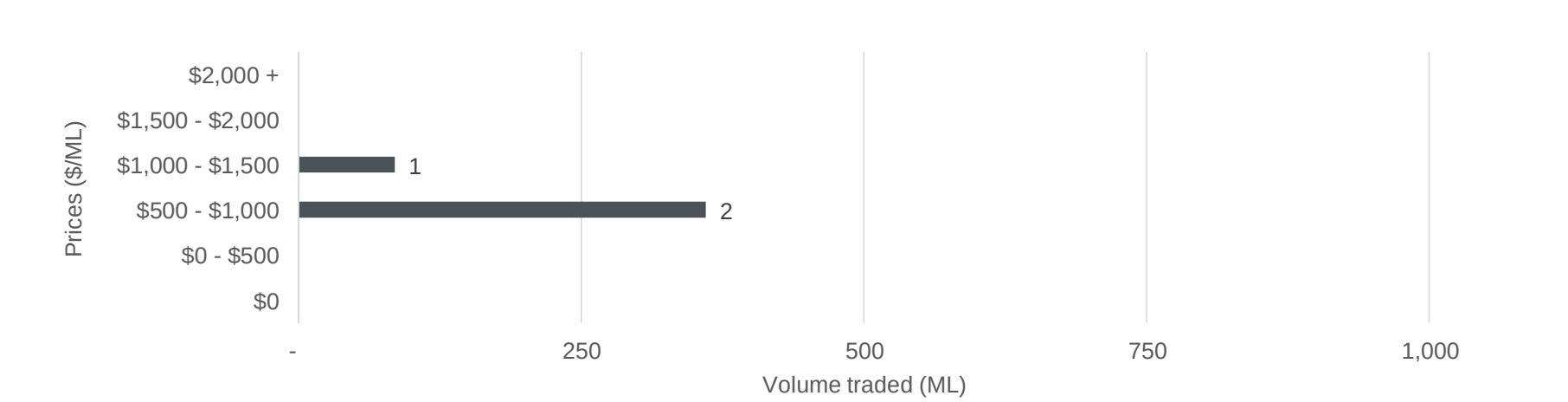
Source: Aither, 2018. Based on the NSW Water Register and quotes sourced from water brokers.

Market prices and volumes, July 2016 to June 2019



Source: Aither, 2018. Based on the NSW Water Register.

Market price range, September 2018



Source: Aither, 2018. Based on the NSW Water Register.

Note: Data labels are indicative of number of trades in each price bracket. Price bracket intervals do not include the upper bound price of the interval.

Queensland Entitlements

Entitlement market overview, September 2018

Entitlement	August 2018 VWAP (\$/ML)	August 2018 Maximum Price (\$/ML)	August 2018 Number of Trades	August 2018 Volume of trade (ML)	August 2018 Average Parcel Size (ML)	Broker Spread (Buy/Sell) (\$/ML)
QLD Condamine-Balonne (St George) Supplemented Condamine-Balonne	\$1,714	-	2	37	18.5	-
QLD Condamine-Balonne (Lower Balonne) Unsupplemented	-	-	32	8,359	261.2	-
QLD Condamine-Balonne (Upper Condamine) Unsupplemented	-	-	1	30	30.0	-
QLD Central Condamine Alluvium Groundwater (1, 2, 3 and 4)	-	-	-	-	-	-
QLD Upper Condamine Alluvium Groundwater (Dalrymple Creek) Groundwater	-	-	-	-	-	-
QLD Upper Condamine Alluvium Groundwater (Oakey Creek) Groundwater	-	-	-	-	-	-
QLD Border Rivers Supplemented (Macintyre Brook)	-	-	-	-	-	-
QLD Border Rivers Unsupplemented	-	-	1	965	965.0	-
QLD Condamine-Balonne Lower Balonne Overland flow	-	-	-	-	-	-

Notes: Dissaggregated entitlement trade data in QLD is not publically available therefore Aither has been unable to provide data in the same format as SA, Vic and NSW entitlement types. QLD groundwater trade data relates to trade in August 2018 as more recent trade data was unavailable at the time of publication. Trade related to QLD Border rivers unsupplemented trade reflects year to date trade as monthly trade data was unavailable. In instances where there has been more than one trade for a given month it has not been possible to determine a maximum price due to the nature of the data made available.

Source: Aither, 2018. Based on the QLD Water Register. Quotes sourced from water brokers.

Notes

VWAPs are based on estimates of commercial trades as outlined in Aither's methodology excluding \$0 values. Aither's methodology is available on request.

Only trades reported in August 2018 are included in the monthly Volume Weight Average Price (VWAP) and Maximum Monthly Price (\$/ML) reported in the entitlement summary tables.

The 'Number of Transfers and 'Volume of Transfers' (ML) are calculated based on all trades from state water market registers, including \$0 value trades. This is in line with Aither's calculation methodology which is available on request.

The average parcel size reported in the entitlement summary tables has been determined by taking the total monthly volume of transfers and dividing by the total number of transfers of the given entitlement during the month in question.

As trade prices for NSW Murray GS within Murray Irrigation are not reported, Aither has used NSW Murray GS on river prices as a substitute given the common characteristics that these entitlements share.

Aither's analysis was conducted on 8 October 2018 and only includes trade data available as of this date.

Document history

Revision:

Revision no.: 1
Author/s: Alexander Dunn
Checked: Kai Wakerman Powell

Approved: Chris Olszak

Distribution:

Issue date: Tuesday 16 October 2018
Issued to: Department of Agriculture and Water Resources
Description: Final

For information on this report:

Please contact: Chris Olszak
Email: watermarkets@aither.com.au

© 2018 Aither Pty Ltd. All rights reserved.

This document has been prepared on the basis of information available to Aither Pty Ltd at the date of publication. Aither Pty Ltd makes no warranties, expressed or implied, in relation to any information contained in this document. This document does not purport to represent commercial, financial or legal advice, and should not be relied upon as such. Aither Pty Ltd does not accept responsibility or liability for any loss, damage, cost or expense incurred or arising by reason of any party using or relying on information provided in this document. Any party that uses information contained in this document for any purpose does so at its own risk.

Aither relies on data obtained from multiple third-party sources that are documented in the report. Consequently, any advice given by Aither on water entitlement prices is subject to the accuracy and limitations of data obtained. In this context, Aither makes no warranties, expressed or implied, in relation to any third-party information contained in this document.

The information contained in this document must not be reproduced or used, in whole or in part, for any purpose without express acknowledgement of Aither.