Northern Murray–Darling Basin

Summary

- Allocation trade in the northern Murray–Darling Basin in 2015–16 comprised 7.9 per cent of the national total. The most active water systems were the Lachlan, the combined New South Wales and Queensland Border Rivers, and the Macquarie–Castlereagh.

- The northern MDB experienced very dry conditions in 2015–16, particularly in the first two thirds of the year, as a result of El Niño conditions. Water availability and storages improved in many systems in the later part of the season because of good rainfall.

- The majority of water entitlements in the northern MDB are for regulated surface water (47 per cent by volume). However there are also significant volumes of unregulated surface water (35 per cent) and groundwater (18 per cent).

- Allocation and entitlement prices between northern MDB water systems vary, reflecting limited hydrological connectivity and differences in irrigated commodities and reliabilities for water products. Prices in 2015-16 had generally increased from previous years because of limited water availability.

- Average prices for surface water allocations in northern NSW MDB water systems in 2015–16 varied from $154 to $284 per megalitre and average entitlement prices varied from $104 to $3,750 per megalitre. Queensland price information was not available (as it has historically not been recorded by the Queensland water register).

Region overview

The northern Murray–Darling Basin has a number of water systems with active markets. The region primarily comprises a range of inland systems along tributaries of the Darling River. For this report the Lachlan River, an intermittent tributary of the Murrumbidgee, has also been included. Water systems referred to in the report are: Barwon–Darling, Lachlan, Macquarie–Castlereagh, Gwydir, Namoi, Border Rivers (New South Wales and Queensland), Moonie, Condamine–Balonne and Warrego–Paroo–Bulloo–Nebine (Map 1).
In contrast to the southern MDB, connectivity between individual water systems in the northern MDB is limited, resulting in variation in market prices and trading activity between systems. More variable water supply and a large number of unregulated rivers has limited the significant development of water markets in the northern MDB (MDBA 2015).

The majority (47 per cent) of northern MDB water supply is regulated surface water (Figure 1). Major dams include Burrendong, Wyangala, Copeton, Keepit and Splitrock.
The majority of water extraction in the northern MDB is used for irrigated agriculture. The largest volume of irrigation use occurs in the Condamine–Balonne, Border Rivers and Namoi.

The main irrigated activity in the northern MDB is cotton, followed by pasture and cereals (excluding rice) (Figure 2). In 2014–15 these made up 65 per cent, 14 per cent and 9 per cent, respectively, of total water use.

The gross value of irrigated agricultural production in 2014–15 was more than $1.5 billion for systems in the northern MDB (ABS 2016).

Water resources, products and terminology in the northern MDB are managed separately by each state, in consultation with the Murray–Darling Basin Authority.

### Seasonal conditions

Similar to the southern MDB, rainfall in the first 9 months of the 2015–16 water year was below average in many parts of the northern Murray–Darling Basin (Map 2). However, conditions improved dramatically late in the water year when most of New South Wales and parts of Queensland experienced above average rainfall (Map 3).
Above average rainfall in the latter part of the year did not translate into significantly higher dam storages—dam storage volumes started and ended the year at 24 per cent on average (Figure 3).
Low storage volumes, carryover and rainfall in the early part of the year resulted in significantly lower total water availability in the region in 2015–16 than the preceding years (2010–11 to 2014–15) (Figure 4). Total water availability was more similar to that of 2004–05 to 2009–10.
Overall market activity

Allocation markets

In 2015–16 water systems in the northern MDB had 1,783 water allocation trades totalling 462 GL. These systems accounted for around 7.9 per cent of the volume of national allocation trade and 6.4 per cent of the number of trades. The volume of trade declined slightly, down 8.5 per cent from the previous year.

Allocation trade in most systems was predominantly for surface water, although significant groundwater trade occurred in the Namoi and Lachlan systems (Figure 5).

Figure 5 Allocation trade volume in the northern Murray–Darling Basin, by resource type and water system, 2015–16

Source: Water Trade Database
Queensland price information was not available (as it has historically not been recorded by the Queensland water register). Average prices for surface water ranged from $154 per megalitre in the Lachlan system to $284 per megalitre in Macquarie–Castlereagh (Figure 6). The average price of groundwater was generally lower than for surface water, and ranged from $43 per megalitre in Lachlan to $151 per megalitre in Namoi. Allocation prices can differ between northern MDB systems because they are hydrologically disconnected and do not share water markets.

**Figure 6 Average water allocation price in the New South Wales portion of the northern Murray–Darling Basin, by resource type and water system, 2015–16**

Note: Excludes trades with reported prices that do not appear genuine (see Appendix A of the *Australian water markets report 2014–15*). Prices are not reported for products with fewer than 5 genuine trades.

Source: Water Trade Database

In most systems, the dry conditions led to allocation prices being higher than in the previous year, particularly for Border Rivers, Gwydir, Macquarie–Castlereagh and Lachlan, and groundwater in Namoi. The Condamine–Balonne trading zones did not have price information available to make a similar comparison.

**Entitlement markets**

Entitlement markets were active in all water systems in the northern MDB in 2015–16, most notably Macquarie–Castlereagh (Figure 7). In total, 1,068 water entitlement trades occurred in these systems, amounting to 607 GL. These comprised around 39 per cent of the volume of national entitlement trade and 12 per cent of the number of such trades.

In the most active systems by volume, trade was mainly for regulated surface water. In systems with limited activity, trade predominantly involved unregulated surface water. Trade in other systems was more evenly spread between resource types.
The variety of entitlement reliabilities led to significant variation in entitlement prices across northern MDB water systems. Prices ranged from an average of $104 per megalitre for supplementary access entitlements in Macquarie–Castlereag to $3,750 for high security licences in the same catchment (Figure 8).

Figure 8 Average water entitlement price in the northern Murray–Darling Basin, by water system, water resource and reliability class, 2015–16

Note: Price data are presented only for products with at least five genuine transactions with non-zero prices.
Source: Water Trade Database

Water system profiles

Water markets outside the southern MDB are highly fragmented as a result of the large range of water products available and the isolated, hydrologically disconnected nature of each water system. Although the majority of water products in the northern MDB can be traded, only a few
systems contain markets with significant activity in any one year. Greater detail is presented for select water systems for which sufficient data are available.

**Gwydir**

**Regional overview**

The Gwydir water system surrounds the Gwydir River in central north-eastern New South Wales, which passes through the regional city of Moree (Map 1). The system contains relatively active markets for water allocations and entitlements. In 2015–16 over 46 GL of water allocations were traded through 153 transactions. Entitlement trade was significantly higher than in 2014–15, totalling 62 GL across 54 transactions in 2015–16.

Water entitlements on issue in Gwydir are primarily for regulated surface water, which is supplied by Copeton Dam. In 2015–16 the total volume of water entitlements on issue was 809 GL (Figure 9). Surface water entitlements were predominantly general security (65 per cent).

![Figure 9 Gwydir water resources, by resource type and reliability class, 2015–16](source: Water Trade Database)

Water in Gwydir is used primarily for irrigated agriculture, which is dominated by cotton production (Figure 10).

![Figure 10 Irrigated water use, Gwydir and Border Rivers, 2014–15](source: Australian Bureau of Statistics)

**Water availability**

Water was relatively scarce in the Gwydir water system in 2015–16 compared with previous years. Dam storage levels began the year at 18 per cent and ended at around 16 per cent (Figure 11).
Gwydir operates under continuous accounting rules—water account balances largely reflect dam storage levels and general security balances are carried over between years. While general security entitlements received 5 per cent allocations in 2015–16 (compared to zero allocation in 2014–15), substantially less water was carried over from the previous year (8 per cent compared with 33 per cent in 2014–15) (Figure 12). As a result, total regulated surface water availability was lower than the previous five years.

In 2015–16, 181 GL of water was made available to unregulated supplementary entitlements but only 29 GL was used (NSW DPI 2017).
**Allocation market activity**

In 2015–16 the total volume of water allocations traded in Gwydir was 46 GL through 153 transactions. Trade was primarily for surface water, which comprised 86 per cent, or 39 GL, of trade by volume (Figure 13).

Dry conditions led to surface water prices increasing by 14 per cent on average, from $258 per megalitre in 2014–15 to $294 per megalitre in 2015–16. Similarly, the average price of groundwater increased by 24 per cent, from $107 per megalitre in 2014–15 to $133 per megalitre in 2015–16 (Figure 13). The price difference between surface water and groundwater may be explained by differences in extraction costs or water quality.

**Figure 13 Allocation market activity, Gwydir, 2007–08 to 2015–16**

![Graph showing allocation market activity with orange bars for volume traded and blue line for price]  

Note: Price data are presented only for years with at least five genuine transactions with non-zero prices.  
Source: Water Trade Database

**Entitlement market activity**

The total volume of water entitlements traded in the Gwydir in 2015–16 was 62 GL, 48 per cent higher than in 2014–15. However, the number of trades was down from 61 in 2014–15 to 54 in 2015–16. The pattern of trade reflected the distribution of entitlements on issue, with general security and supplementary access comprising the majority of traded water by volume (Figure 14).
Market data since 2012–13 were deemed insufficient to reliably determine general security prices. Average supplementary prices in Gwydir remained stable in 2015–16, trading at around $1,000 per megalitre (Figure 15).

Note: Price data are presented only for years with at least five genuine transactions with non-zero prices.

Source: Water Trade Database
Namoi

Regional overview

The Namoi water system consists of the area within the Murray Darling–Basin surrounding the Namoi and Peel rivers in north-eastern New South Wales (Map 1). The system contains relatively active markets for water allocations and some entitlements. In 2015–16, 40 GL of allocation water was traded through 304 transactions, and 79 GL of entitlements were traded through 214 transactions.

Water entitlements on issue in the Namoi are split relatively evenly between resource types—313 GL of regulated surface water, 289 GL of unregulated surface water and 272 GL of groundwater in 2015–16 (Figure 16). Surface water entitlements were predominantly general security (48 per cent). The Namoi area has more reliable and productive groundwater compared with other northern MDB catchments.

Figure 16 Namoi water resources, by resource type and reliability class, 2015–16

Regulated surface water in Namoi is separated into three trading zones supplied by separate water storages—Chaffey Dam on the Peel River, Split Rock in the Upper Namoi, and Keepit Dam in the Lower Namoi. The Peel River flows into the Namoi River below Keepit Dam and contributes significant inflows to the Lower Namoi but is managed by a separate water sharing plan. Groundwater is managed within one trading zone in Peel, one in Lower Namoi and at least six separate and distinct zones in Upper Namoi.

Water use in Namoi is primarily for irrigated agriculture, which is dominated by cotton, pasture and cereals (Figure 17). Land and water use can fluctuate significantly between years, based on water availability and commodity prices.

Figure 17 Irrigated water use, Namoi, 2014–15

Water availability

Similar to other northern MDB water systems, water availability in Namoi was relatively low in 2015–16. Dams were drawn down significantly in the middle of 2015–16 but recovered as a result of good inflows in late June 2016. By the end of the year storages levels had generally
increased, reaching 59 per cent in Chaffey, 16 per cent in Keepit and 5 per cent in Splitrock (Figure 18).

Figure 18 Namoi storage volumes, 1 July 2007 to 30 June 2016

Lower and Upper Namoi operate under continuous accounting rules, meaning balances are effectively carried over between years. Roughly 9 per cent of the total volume of general security entitlements on issue was carried into 2015–16. Peel operates under an annual accounting system with no carryover provisions.

Higher reliability entitlements in these regions received 100 per cent allocations, but the majority of entitlements on issue are for general security in Lower Namoi, which received zero allocations in 2015–16. As a result, total regulated surface water availability in the Namoi was the lowest since 2004–05 (Figure 19).

Figure 19 Regulated surface water available in Namoi, by resource type and reliability, 2004–05 to 2015–16

Note: Includes allocations to entitlements in Upper Namoi, Lower Namoi and Peel.
**Allocation market activity**

In 2015–16 the total volume of water allocations traded in Namoi was 40 GL through 304 transactions. Trade was dominated by groundwater, which comprised 76 per cent of trade by volume.

The majority of surface water trades—78 of 128—occurred in the Upper and Lower Namoi surface water trading zones. The remaining 176 trades were for groundwater, predominantly within Upper and Lower Namoi groundwater zones.

The average price for surface water allocations was around $197 per megalitre in 2015–16. This was 12 per cent lower than the previous year (Figure 20) but still higher than all other years since 2007–08. The average price of groundwater allocations increased by 22 per cent from the previous year to $91 per megalitre.

**Figure 20 Allocation market activity, Namoi, 2007–08 to 2015–16**

![Graph showing allocation market activity](Source: Water Trade Database)

**Entitlement market activity**

The total volume of water entitlements traded in Namoi in 2015–16 was 79 GL, which was 9 per cent higher than in 2014–15. The number of trades increased by 26 per cent, from 167 in 2014–15 to 210 in 2015–16.

In terms of volume, trade comprised 50 per cent regulated surface water, 26 per cent unregulated surface water and 24 per cent groundwater. The pattern of trade by reliability class corresponds to the distribution of entitlements on issue, with general security and supplementary access comprising the majority of traded surface water (Figure 21). Detailed reliability information is unavailable prior to 2013–14, so long-term comparisons are not possible.
Entitlement trade data were insufficient to reliably estimate market prices because of high numbers of unreported prices and significant inconsistencies in reported prices within each entitlement reliability class.

### Macquarie–Castlereagh

#### Regional overview

The Macquarie–Castlereagh water system surrounds the Macquarie, Castlereagh and Cudgegong rivers in central New South Wales (Map 1). In 2015–16, 55 GL of allocations was traded through 376 transactions and 194 GL of entitlements were traded through 170 transactions.

Water entitlements on issue in Macquarie–Castlereagh are primarily for regulated surface water. In 2015–16 the total volume of water entitlements on issue comprised 675 GL of regulated surface water, 344 GL of unregulated surface water and 128 GL of groundwater (Figure 22). Surface water entitlements were predominantly general security (62 per cent).

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*Source: Water Trade Database*
Regulated surface water in Macquarie–Castlereagh is separated into two trading zones supplied by the Windamere Dam on the Cudgegong River and Burrendong Dam at the head of the Macquarie River. Both zones are managed under the same water sharing plan and trade between zones is permitted. Groundwater is managed through at least seven local trading zones across two water sharing plans. The Castlereagh River is predominantly unregulated and trade in this system is generally negligible.

Water in Macquarie–Castlereagh is used primarily for irrigated agriculture, which is dominated by cotton, cereals and pasture (Figure 23).

**Figure 23 Irrigated water use, Central West (includes Macquarie–Castlereagh), 2014–15**

![Irrigated water use graph](image)

*Note: Data are presented for the natural resource management region that best corresponds to the water system.*

*Source: Australian Bureau of Statistics*

### Water availability

Water availability in the Macquarie–Castlereagh area remained low throughout 2015–16, following a dry period from 2013–14 to 2014–15. Windamere Dam began the year at 43 per cent and declined to 39 per cent by the end of the year (Figure 24). Burrendong Dam began the year at 14 per cent and ended at 24 per cent.

**Figure 24 Macquarie–Castlereagh storage volumes, 2007–08 to 2015–16**

![Storage volumes graph](image)

*Source: Bureau of Meteorology*

Macquarie–Castlereagh regulated water sources operate under an annual accounting system, with carryover provisions for general security entitlements (NSW DPI 2016b). In 2015–16 water allocations remained low (7 per cent for general security), but higher than in 2014–15. Carryover into 2015–16 was around 6 per cent of the total general security entitlement volume, around half that of the previous year. As a result, total regulated surface water availability in 2015–16 was similar to 2014–15 but lower than in 2010–11 to 2013–14 (Figure 25).
Allocation market activity

In 2015–16 the total volume of water allocations traded in Macquarie–Castlereagh was 55 GL, 17 per cent lower than in 2014–15. However, the number of transactions increased from 271 in 2014–15 to 376 in 2015–16. Surface water accounted for 86 per cent of the trade by volume (Figure 26).

The average price for surface water allocations was $271 per megalitre in 2015–16. This was 7 per cent higher than prices in 2014–15, reflecting the continued decline in water storages since 2011–12. Groundwater prices increased slightly to $32 per megalitre.
Entitlement market activity

The total volume of water entitlements traded in Macquarie–Castlereagh in 2015–16 was 194 GL, up 21 per cent from 2014–15. The number of trades increased by 13 per cent, from 151 transactions in 2014–15 to 170 in 2015–16.

Of this entitlement trade, 91 per cent was for regulated surface water, 6 per cent for unregulated surface water (including supplementary water) and 3 per cent for groundwater (Figure 27).

Figure 27 Volume of entitlement trade, by resource type and reliability class, Macquarie–Castlereagh, 2007–08 to 2015–16

Note: Data from years before 2013–14 do not distinguish between groundwater (aquifer) and other unregulated (other) trades, and are listed here as ‘unknown’.
Source: Water Trade Database

The average general security entitlement price in 2015–16 was $912 per megalitre, down 10 per cent from 2014–15 (Figure 28). Unlike allocation prices, entitlement prices are driven by long-term expectations and not necessarily conditions within a specific year. The continued decline in general security prices despite a prolonged period of drought suggests that expectations of future inflows have fallen or demand for water is decreasing by more than the expected future supply reductions.

Data were not reliable enough to provide price estimates for other entitlement classes.
Lachlan

Regional overview

The Lachlan water system contains the Lachlan and Belubula rivers in central New South Wales, just above the Murrumbidgee (Map 1). The Lachlan system is sometimes considered part of the southern MDB because the Lachlan River is a tributary of the Murrumbidgee. However, this hydrological connection is only intermittent so trade with southern MDB water systems is not permitted. For this reason, Lachlan is considered part of the northern MDB for this report.

Water entitlements on issue in Lachlan are primarily for regulated surface water. In 2015–16 the total volume of water entitlements on issue comprised 690 GL of regulated surface water, 58 GL of unregulated surface water and 382 GL of groundwater (Figure 29). Surface water entitlements were predominantly general security (82 per cent).

Regulated surface water on the Lachlan River is separated into two trading zones—above and below Lake Cargelligo Weir—with the upper trading zone supplied by Wyangala Dam. Trade is also allowed between these zones. The Belubula River has one trading zone, supplied by Carcoar Dam. Groundwater in Lachlan is managed through at least seven trading zones across two water sharing plans.

Water in Lachlan is used primarily for irrigated agriculture, spread across cotton production, pasture, cereals, and perennial and annual horticulture (Figure 30). Irrigated horticulture is a
significant activity in Lachlan in comparison to other northern Murray–Darling Basin catchments.

**Figure 30 Irrigated water use, Lachlan, 2014–15**

Note: Data are presented for the natural resource management region that best corresponds to the water system.
Source: Australian Bureau of Statistics

**Water availability**

Water availability in Lachlan in 2015–16 was higher than in previous years. Water storage levels improved from 2014–15 for the Lachlan and remained constant for the Belubula (Figure 31).

**Figure 31 Lachlan storage volumes, 2007–08 to 2015–16**

Source: Bureau of Meteorology

The Lachlan regulated water sources operate under an annual accounting system, with carryover provisions for general security entitlements (NSW DPI 2016a). While Lachlan general security entitlements received allocations for the first time since 2011–12, carryover was slightly lower than the previous year (Figure 32). In total, regulated surface water availability was slightly higher than 2014–15.
Allocation market activity

In 2015–16 the total volume of water allocation traded in Lachlan was 185 GL through 588 trades. The majority of trade was for surface water, which made up 76 per cent of allocation trade (Figure 33).

The average price for surface water allocations was $147 per megalitre in 2015–16, 20 per cent higher than in 2014–15 and the third year in a row that prices rose significantly. The average price of groundwater allocations was $41, which was a 59 per cent increase from 2014–15 and continues a recent trend of increasing groundwater prices in the Lachlan. 2015–16 was the eighth year in a row of reductions in allocations to supplementary water access groundwater licences. These are non-tradeable groundwater entitlements designed to reduce to zero in volume over a ten year period to bridge historic use with sustainable diversion limits (NSW DPI 2008). Lower Lachlan is the only remaining region with these licences.
Entitlement market activity

The total volume of water entitlements traded in the Lachlan in 2015–16 was 77 GL, through 211 transactions. Trade was primarily for general security entitlements, which comprised 45 per cent of all entitlement trade by volume (Figure 34).

Figure 34 Volume of entitlement trade, by resource type and reliability class, Lachlan, 2007–08 to 2015–16

![Figure 34 Volume of entitlement trade, by resource type and reliability class, Lachlan, 2007–08 to 2015–16](image)

Note: Data from years prior to 2013–14 do not distinguish between groundwater (aquifer) and other unregulated (other) trades, and are listed here as ‘unknown’.
Source: Water Trade Database

The average price of general security entitlements was $438 per megalitre, 11 per cent higher than in 2014–15 (Figure 35). There was insufficient price information for estimating high reliability entitlement prices.

Figure 35 Surface water entitlement trade for selected reliability classes, Lachlan, 2007–08 to 2015–16

![Figure 35 Surface water entitlement trade for selected reliability classes, Lachlan, 2007–08 to 2015–16](image)

Note: Price data are presented only for years with at least five genuine transactions with non-zero prices.
Source: Water Trade Database
Border Rivers

Regional overview

The Border Rivers water system lies in the north-east of the Murray-Darling Basin along the border between New South Wales and Queensland (Map 1). The Macintyre and the Dumaresq rivers make up portions of the border and are the most significant rivers. Other important waterways include the Mole River, Severn River, Pike Creek and Weir River. These rivers meet west of Goondiwindi between Moree and St George to become the Barwon River.

Because the waterways of the Border Rivers regularly cross over and form the border between states, the area and its water infrastructure assets are managed in agreement by the Border Rivers Commission on behalf of the NSW and Queensland governments. To manage the complex arrangements regarding carryover, limited storage airspace and various types of entitlement in the Border Rivers, a continuous accounting system is used.

Similar to the division between the Victorian Murray and NSW Murray water systems in the southern MDB, water market structure and reporting differs between the NSW and Queensland sections. This section examines both areas together.

In the NSW portion, surface water is predominantly general security regulated entitlements (61 per cent) (Figure 36).

In contrast, the Queensland portion has predominantly unregulated surface water (59 per cent) and medium security regulated water (40 per cent) (Figure 37).

The Border Rivers is predominantly a cotton-growing area. In 2015–16 the Border Rivers area was estimated to have produced just over 10 per cent of Australia's cotton (Cotton Australia 2016). The NSW portion produces primarily cotton with small amounts of cereals (Figure 38).
Irrigated water use in the Queensland portion is also primarily for cotton but some irrigated cereals, pasture and horticulture is also produced (Figure 39).

Water availability

Like much of the northern MDB, water availability on both sides of the Border Rivers remained low in 2015–16 (Figure 40). Glenlyon Dam, which services Pike Creek at the head of Dumaresq River, saw very low inflows, beginning and ending the year at less than 30 per cent full. Lake Coolmunda, servicing the Queensland portion of Border Rivers, was drawn down from 62 per cent to 30 per cent of capacity. In contrast, storage volumes in Pindari Lake, which service Severn River in the NSW portion of Border Rivers, rose from 26 per cent to 38 per cent.

In addition to publicly managed headwater storages, the NSW Border Rivers has an estimated 155 GL of private storage capacity and the Queensland portion has 300 GL (NSW DWE 2009). Rainfall across the Border Rivers area was generally below average in 2015–16 and many private storages in the area ended the year empty (BRC 2016).
In total 88 GL of water was allocated to regulated water licences in the NSW Border Rivers area and 24 GL were available as carryover in 2015–16 (Figure 41). Information is not available for the Queensland portion.

Figure 41 Regulated surface water available in NSW Border Rivers, by resource type, 2009–10 to 2015–16

Allocation market activity

The total allocation trade volume in the Border Rivers in 2015–16 was 120 GL, almost all of which was surface water.

In the NSW portion, 30 GL of allocations were traded in 2015–16. This entirely comprised surface water and represented a 53 per cent increase on the previous year. The number of transactions was 148, 16 per cent higher than in 2014–15.

Reflecting the dry conditions, the allocation price reached an average of $229 per megalitre, 10 per cent higher than in 2014–15. This is the highest average price since 2009–10, and marks the fourth year allocation prices increased (Figure 42).
The volume of trade in the Queensland Border Rivers is historically much higher than in the NSW portion. The total volume of trade in 2015–16 was almost 91 GL in 54 transactions. Trade volumes in Queensland Border Rivers have increased relatively consistently since 2007–08 (Figure 43). Trade prices are not recorded in Queensland.

**Entitlement market activity**

The total volume of entitlement trade in Border Rivers increased by 134 per cent in 2015–16. In 2015–16, 95 GL of entitlements were traded, predominantly for surface water.
In the NSW portion of the Border Rivers, 77 GL of entitlements were traded in 2015–16, almost double the volume traded in 2014–15 (Figure 44). Price data were limited and exhibited too much variation to provide reliable price estimates.

Figure 44 Surface water entitlement trade volume for NSW Border Rivers, 2007–08 to 2015–16

In the Queensland portion of the Border Rivers, 18 GL of water entitlements were traded in 2015–16, a 24 per cent increase from 2014–15. Unlike the NSW portion, regulated water made up only 1 per cent of entitlement trade. The bulk of trade was in unregulated water entitlements (66 per cent) and groundwater (33 per cent). This continues the trend since 2013–14 of a greater portion of unregulated entitlement trade (Figure 45).

Figure 45 Surface water entitlement trade for Queensland Border Rivers, 2007–08 to 2015–16

Condamine–Balonne

Regional overview

The Condamine–Balonne water system contains the area surrounding the Condamine, Balonne, Maranoa and Culgoa rivers in Queensland (Map 1). On the eastern side, Leslie Dam supplies
regulated surface water to the Upper Condamine zones on the Condamine River. The Condamine River flows into the Balonne River at the centre of the system and feeds the Central Balonne zones. The Maranoa and Balonne rivers meet at Beardmore Dam, which supplies the Lower Balonne zones. At the end of the system, the Culgoa and a number of other rivers flow into the New South Wales Barwon–Darling water system.

In aggregate, the system contains a number of trades for both allocations and entitlements. However these trades are distributed through a number of trading zones, each having very few trades per year—often under 10 per group of connected trading zones. The figures presented here are aggregates across all of these trading zones.

Given the relatively small amount of public water storage, entitlements in the Condamine–Balonne are primarily for unregulated surface water, comprising 477 GL in 2015–16. Groundwater entitlements and regulated surface water comprise 202 GL and 123 GL, respectively (Figure 46). In the main watercourse, surface water entitlements were predominately medium security (87 per cent) fed mainly from Beardmore Dam and Leslie Dam.

**Figure 46 Queensland Condamine–Balonne water resources, by resource type and reliability class, 2015–16**

![Bar chart](source: Water Trade Database)

**Water availability**

The regulated surface water trading zones on the Condamine–Balonne are sourced from a few relatively small public water storages and a number of small private storages. Regulated water availability from these storages was relatively scarce in 2015–16, compared with previous years. Storage levels in the upper Condamine–Balonne at Chinchilla Weir began the year at 95 per cent and ended the year at 30 per cent, while Beardmore Dam (Lake Kajarabie) started the year at 96 per cent and decreased to 68 percent by the end of the year (Figure 47).

**Figure 47 Select Condamine–Balonne storage volumes, 2015–16**

![Graph](source: Bureau of Meteorology)
Regulated surface water is clustered into four groups of trading zones in disparate geographic areas, all of which received 100 per cent allocations in 2015–16 for high priority entitlements. Medium priority entitlements in the Lower Balonne received 91 per cent allocations. However, at Chinchilla Weir and in the Upper Condamine medium priority entitlements received below 100 per cent allocations for the first time in at least 6 years, at 71 per cent and 32 per cent, respectively.

**Allocation market activity**

In 2015–16 the total volume of water allocation traded in Condamine–Balonne was 15 GL, 46 per cent lower than in 2014–15. The number of trades decreased by 9 per cent, from 171 trades in 2014–15 to 156 trades in 2015–16. Trade was dominated by surface water, comprising 76 per cent of trade by volume. Groundwater comprised 24 per cent of trade by volume (Figure 48). Price data were not available.

**Figure 48 Allocation market activity, Queensland Condamine–Balonne, 2007–08 to 2015–16**

![Figure 48 Allocation market activity, Queensland Condamine–Balonne, 2007–08 to 2015–16](chart)

Source: Water Trade Database

**Entitlement market activity**

The total volume of water entitlements traded in Condamine–Balonne in 2015–16 was 28 GL (Figure 49). This was 28 per cent lower than in 2014–15. In contrast, the number of trades increased by 12 per cent, from 199 trades in 2014–15 to 223 in 2015–16. In terms of volume, trade was dominated by unregulated surface water, comprising 64 per cent of trades. Groundwater and regulated surface water comprised 32 per cent and 4 per cent of total entitlement trade, respectively.
Figure 49 Volume of surface water entitlement trade, by reliability class, Queensland Condamine–Balonne, 2008–09 to 2015–16

Source: Water Trade Database
References


