AUSTRALIAN COMPETITION & CONSUMER COMMISSION

Water monitoring report

2021–22

July 2023

Acknowledgment of country

The ACCC acknowledges the traditional owners and custodians of Country throughout Australia and recognises their continuing connection to the land, sea and community. We pay our respects to them and their cultures; and to their Elders past, present and future.

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ACCC 06/23_23-23
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Contents

Glossary and abbreviations

ACCC	Australian Competition and Consumer Commission
Basin Plan	A high-level framework agreed between the Australian Government and Basin states that sets standards for the management of the Murray–Darling Basin's water resources. Officially known as the Basin Plan 2012.
Basin Plan Water Trading Rules	Rules set out in Part 12 of the Basin Plan that relate to the trade or transfer of tradeable water rights. The rules commenced on 1 July 2014 and since 2021 have been enforced by the Inspector General of Water Compliance.
Basin states	States and territories that reside partly or wholly within the Murray–Darling Basin – New South Wales, Victoria, Queensland, South Australia and the ACT.
Basin state agencies	Basin state departments and water authorities
BIL	Barossa Infrastructure Limited
BRC	Border Rivers Commission
bulk water charge	A charge payable for either (or both) the storage of water for, or the delivery of water to: (i) infrastructure operators (ii) other operators of reticulated water systems (iii) other persons (including private diverters and environmental water holders).
CIT	Central Irrigation Trust
CPI	Consumer Price Index
DEECA	Department of Energy, Environment and Climate Action (Vic)
DELWP	Department of Environment, Land, Water and Planning (Vic)
DPIE	Department of Planning, Industry and Environment (NSW)
DRDMW	Department of Regional Development, Manufacturing and Water (Qld)
ESCV	Essential Services Commission Victoria
ESCOSA	Essential Services Commission of South Australia
general security (NSW)	In NSW, a water access entitlement (water access licence) which receives water allocation as a lower priority compared to high security and conveyance water.
GL	gigalitres (one billion litres)
GMW	Goulburn Murray Water

high priority (Queensland) high security (NSW) high reliability (Victoria)	Classes of water access entitlement against which water allocation is made first. They are the most reliable class of water access entitlement and are typically used for town water supply, industrial use, and high-value cropping.
infrastructure charge	Charges that infrastructure operators impose for access to their water service infrastructure, and for services provided in relation to that access.
infrastructure operator	Any person or entity that owns or operates infrastructure for one or more of the following purposes: (i) the storage of water (ii) the delivery of water (iii) the drainage of water for providing a service to someone who does not own or operate the infrastructure.
IPART	Independent Pricing and Regulatory Tribunal of NSW
irrigation infrastructure operator	An infrastructure operator that owns or operates water service infrastructure for delivering water for the primary purpose of irrigation.
irrigation network	The water service infrastructure of an irrigation infrastructure operator, as defined in s 7(4) of the *Water Act 2007.* In practice, an irrigation network typically constitutes a network of carriers (open channels, pipes and/or natural waterways) that convey water from a water source through customer service points to customer properties. It may be either a gravity fed network (typically using channels and/or natural waterways) or a pressurised network (using pipes).
irrigation right	A person's right against an irrigation infrastructure operator to receive water, which is not a water access right or a water delivery right. It usually can be transformed into a water access entitlement.
joint water supply schemes	Similar to cooperatives where the members form and run an organisation to deliver water to irrigators. The water access entitlement is jointly held by all customers rather than by the irrigation infrastructure operator on behalf of members.
kL	kilolitre (one thousand litres)
LMW	Lower Murray Water
low reliability (Victoria)	In Victoria, refers to a class of water access entitlement (water share) with a lower priority to receive allocation.
medium priority (Queensland)	In Queensland, water access entitlements (known as water allocations) with medium priority have lower reliability than high priority water allocations and are mainly used for agriculture. This means during drier conditions, and when storage levels are low, these water allocations are the first to be restricted.
MDBA	Murray–Darling Basin Authority
ML	megalitre (one million litres)

non-volumetric charge	A charge that does not reference a volume of a water right – for example, a charge that is levied per account, per outlet or per meter.
NWI	National Water Initiative – A 2004 intergovernmental agreement between the Australian Government and Basin states for national water reform.
off-river infrastructure service/off-river infrastructure operator	The storage, delivery and/or drainage of water diverted from a natural watercourse through a network consisting of off-river channels and/or pipes (which can be gravity fed or pressurised) to another person. An operator providing such services is an off-river infrastructure operator.
on-river infrastructure service/on-river infrastructure operator	Harvesting and storing water through infrastructure such as dams, lakes, weirs and reservoirs located primarily on a natural watercourse, and delivering water, primarily through natural watercourses. An operator providing such services is an on-river infrastructure operator.
private diverter	An irrigator that extracts water directly from a natural watercourse (either a regulated or unregulated river).
pressurised irrigation system	A piped irrigation system that usually requires water pressure for the system to work and requires pumps to pressurise the water.
QCA	Queensland Competition Authority
regulated system	A water system where the water flow is managed through artificial structures such as large dams and weirs.
regulated water charge	A water charge to which the Water Charge Rules 2010 apply. Section 91 of the Water Act 2007 provides a full definition.
RFI	ACCC request for information
RIT	Renmark Irrigation Trust
southern connected Murray–Darling Basin	The southern Murray–Darling Basin catchments that are hydrologically connected. Water can be traded between any of these catchments (subject to trade limits).
termination	When a person terminates or surrenders the whole or part of a right of access to an operator's network, typically by terminating a water delivery right.
termination fee	A fee that an operator may impose when an irrigator terminates.
tradeable water right	One of: (i) water access right (ii) water delivery right (iii) irrigation right
transformation	When an irrigator permanently transforms their entitlement to water under an irrigation right against an irrigation infrastructure operator into a water access entitlement held by the irrigator (or anybody other than the irrigation infrastructure operator), thereby reducing the volume (for example, the share component) of the irrigation infrastructure operator's water access entitlement.

unregulated system	A water system where the water flow is not managed through artificial structures such as dams and weirs. Also referred to as an unsupplemented system in Queensland.
volumetric charge	Charge based on the volume of a water right or physical amount of water. A fixed volumetric charge is a charge based on the volume of water rights held, while a variable volumetric charge is a charge based on the volume of the rights that is used in a particular manner.
WAMC	Water Administrative Ministerial Corporation (NSW)
water access entitlement	Perpetual or ongoing entitlement, by or under a law of a Basin state, to exclusive access to a share of the water resources of a water resource plan area.
water access entitlement trade	Change of ownership and/or location of a water access entitlement.
water access right	Any right conferred by or under a law of a Basin state to hold and/or take water from a water resource, including: ▪ stock and domestic rights ▪ riparian rights ▪ a water access entitlement ▪ a water allocation.
Water Act	*Water Act 2007* (Cth)
water allocation	Specific volume of water allocated to water access entitlements in a given water accounting period. Also referred to as a seasonal water assignment in Queensland.
water allocation trade	Change of ownership and/or location of a particular volume of water allocation.
Water Charge Rules 2010	Rules for fees and charges payable to an infrastructure operator for: bulk water charges; access to the irrigation infrastructure operator's network, or services provided relating to that access; and matters specified in regulations made under s 91(1)(d) of the *Water Act 2007*. Also includes rules for water planning and management activities and terminating access to an irrigation infrastructure operator's irrigation network.
water delivery right	Right to have water delivered by an infrastructure operator. It typically represents the holder's right of access to an irrigation network (there may also be a right to drainage) and can be terminated.
Water Market Rules 2009	Rules dealing with actions or omissions of an irrigation infrastructure operator that prevent or unreasonably delay transformation arrangements or trade of the resulting water access entitlement.
water harvesting/ supplementary water	In Queensland, the taking of unsupplemented water under a water access entitlement. Includes the taking of overland flow. In NSW, supplementary water is surplus flow that cannot be captured or re-regulated. Supplementary water access licence holders can only pump water against these licences during these announced periods. NSW is rolling out a licencing framework for floodplain harvesting.

water service infrastructure	Infrastructure for one or more of the following purposes: (i) the storage of water (ii) the delivery of water (iii) the drainage of water for providing a service to someone who does not own or operate the infrastructure.

Overview

Infrastructure operators operate water service infrastructure for the storage, delivery and drainage of water in the Basin.[1] An irrigation infrastructure operator is an infrastructure operator that owns or operates water service infrastructure for delivering water for the primary purpose of irrigation.[2]

The ACCC monitors infrastructure operators because they are natural monopolies that have at least some degree of market power. This is because the infrastructure they operate is generally uneconomic to duplicate and they operate in geographically exclusive areas where competition is unlikely to develop.

An irrigation right is a person's right, held against an irrigation infrastructure operator, to receive water, which is not a water access right or a water delivery right.[3] Transformation allows water available to a customer under an irrigation right to be held directly by the customer as a water access entitlement, which can then be traded to another person outside of the irrigation infrastructure operator's network.

Monitoring can help highlight where infrastructure operators may be exercising market power. Preparing typical bills improves transparency of regulated water charges by reporting on trends over time, and monitoring compliance with the Water Market Rules 2009 (water market rules) and the Water Charge Rules 2010 (water charge rules) (collectively the Rules) highlights non-compliance and helps assess the effectiveness of the rules.[4] However, monitoring does not stop the exercise of market power, and the data we collect is not sufficient to assess the efficiency or prudency of operators' expenditure and pricing.

Compliance with the rules continues to improve

The ACCC received 7 complaints about water-related matters in 2021–22 including one from an irrigator. This continues the decline in water complaints and inquiries to the ACCC since 2018–19.

The ACCC actively assesses infrastructure operators' compliance with key provisions of the Rules by undertaking annual compliance reviews of infrastructure operators' schedule of charges and responses to the ACCC's requests for information.

The ACCC reviewed the infrastructure operators' 2021–22 schedule of charges where they were published online. The main issue identified was infrastructure operators combining all government pass-through charges into one charge, rather than separating them out as required by water charge

1 See s. 7 of the *Water Act 2007 (Cth)* (Water Act). Section 91(3) of the Water Act means that the Water Charge Rules 2010 do not extend to charges in respect of urban water supply activities beyond the point at which the water has been removed from a Basin water resource.

2 Section 7(4) of the *Water Act 2007 (Cth)*.

3 A water access right is a right conferred by or under a law of a State to hold water from a water resource and/or to take water from a water resource. It includes stock and domestic rights, riparian rights, water access entitlements and water allocations. A water delivery right is a right to have water delivered by an infrastructure operator. See section 4 of the Water Act.

4 Sections 94 and 99 of the *Water Act 2007 (Cth)* (Water Act) require the ACCC to monitor regulated water charges, transformation arrangements and compliance with the Rules. For context, this report also covers trends in terminations, and water allocation trade undertaken, or facilitated by, irrigation infrastructure operators.

rule 9A.[5] We helped infrastructure operators to correct minor inaccuracies in their schedule of charges and requested some infrastructure operators include greater detail in their schedules when describing the services that their charges related to.

We are conducting a review of infrastructure operator's responses to our annual requests for information to assess infrastructure operators' compliance with the Rules. This includes assessing every termination fee levied by an infrastructure operator for compliance with the termination fee cap set out in the water charge rules.[6] At the time of publication, we have not identified any major compliance breaches. Overall, most infrastructure operators show an understanding of their obligations under the Rules. This is consistent with previous years and is generally as expected since the Rules have been in operation for over a decade and the stakeholders, in particularly the larger infrastructure operators (and their legal advisors), have a mature understanding of the rules.

We published guidance for infrastructure operators about how to comply with the water charge rules. Recently this has included guidance on:

- pass-through charges
- the difference between ancillary and network operations charges
- when and how an infrastructure operator should include capital contributions on their schedule of charges and guidance about applying to the ACCC for an exemption from the requirement that an infrastructure operator publish certain charges in their schedule of charges.

We also issued updated guidance about the water market rules.

Typical bills influenced by many factors

This year's report highlights that regulated water charges differ substantially between different Basin states, and that state government policy has a significant impact on on-river typical bills. For example, the Queensland government decided that dam safety compliance costs should be excluded from the irrigation charges recommended by the Queensland Competition Authority[7], whereas dam safety compliance costs were included by the Independent Pricing and Regulatory Tribunal and were a key driver for price rises in NSW.[8]

The cost per megalitre (ML) of water delivered through an off-river irrigation network in the Basin varies substantially. These differences reflect the variety of network types including whether the infrastructure operator's network is gravity-fed or pressurised (pressurised networks have higher energy costs and generally result in typical bills being higher than gravity fed networks), the water

5 Under rule 9A of the water charge rules, pass through charges can be combined into the operator's general charges if the charge fits within the definition of a 'network operations charges'. Network operations charges are infrastructure charges and planning and management charges levied on an infrastructure operator (taking account of any discounts) on the basis of: (a) water access rights held or used by the operator specifically for the purpose of meeting distribution losses; or (b) infrastructure used by the operator to extract water from a watercourse or discharge water to a watercourse in the course of providing a service to the operator's customers. All other infrastructure and planning management charges are 'ancillary charges' and the operator must recover the charges from its customers by means of one or more separate charges in accordance with rule 9A.

6 The maximum general termination fee that an infrastructure operator can levy is 10 times the fixed volumetric charges for the right of access the customer wishes to terminate (levied per unit of water delivery or drainage right for a full financial year). This is only the case if the operator allows the trade of the kind of water delivery or drainage right that the customer wishes to terminate. If an infrastructure operator does not allow the trade of the kind of water delivery or drainage right that the customer wishes to terminate, the maximum general termination fee is the amount (not 10 times the amount) of the fixed volumetric charges for the right the customer wishes to terminate (levied per unit of water delivery or drainage right for a full financial year). See ACCC (2020) What do the new Water Charge Rules mean for operators and irrigators?

7 Extraordinary Queensland Government Gazette No. 5 for 5 May 2020, Volume 384, recommendation 10, p 28, accessed on 7 March 2023.

8 See IPART (2021), Improving the reliability of water supply in regional and rural NSW. In most valleys, IPART said that increased efficient capital expenditure was due to increased efficient WaterNSW expenditure on dam safety compliance. See for example, WaterNSW rural bulk water prices for Murray valley – final report, accessed 5 June 2023.

volumes delivered, network size (which can affect economies of scale), the location, type of service, pricing methodology, tariff structures and differing economic regulatory arrangements across the Basin states.

Queensland: Rebates and discounts meant lower charges for Sunwater irrigation customers

Queensland government discounts and rebates for irrigators substantially reduced the charges paid to Sunwater by irrigators, especially horticulturalists. Typical on-river bills for Sunwater's irrigation customers for 2021–22 were between 6% and 15% lower than in 2020–21, partly because the Queensland Treasurer applied a 15% discount to the (lower bound)[9] charges recommended by the Queensland Competition Authority.[10] The Queensland government also provided horticulturalists with an additional 35% discount via rebate (a 50% total discount).

The ACCC agrees with the Productivity Commission's assessment that that this kind of differential charge based on end-use, where that end-use does not affect the cost of supply, could undermine the National Water Initiative principle of user-pays and cost-reflective pricing.[11] In 2023, the Productivity Commission is due to assess the progress that jurisdictions (including Basin states) have made towards achieving the outcomes of the NWI.[12]

Sunwater's non-irrigation charges, which are set by Sunwater with the aim of achieving full-cost recovery (including a return on the initial investment) rose by 2% in 2021–22 compared to 2020–21.[13]

The infrastructure charges levied by the Queensland Department of Regional Development, Manufacturing and Water (DRDMW) for water storage and delivery services in the Border Rivers water supply system, which generally rise according to consumer price index in the previous year, rose by less than 2% in 2021–22 compared to 2020–21.[14]

9 The NWI defines 'lower bound pricing' as follows "the level at which to be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TER [total expense ratio] (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome." :Intergovernmental agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory. Unlike upper bound prices, lower bound prices do not allow the business to earn a return on, or recover, the initial investment in the existing assets.

10 Sunwater's irrigation charges are set by the Queensland Government after the QCA makes recommendations.

11 Productivity Commission (2021), Assessment of National Water Initiative implementation progress (2017–2020): Productivity Commission National Water Reform 2020 Inquiry Report, p 94, accessed 7 March 2023.

12 Department of Climate Change, Energy, the Environment and Water. National Water Initiative, accessed 27 March 2023.

13 This was approximately the rate of inflation in the previous year, noting that regulators normally index prices for the coming year on the basis of lagged actual inflation rates. The CPI (Australia, All groups) for the average of the 4 quarters of 2020–21 was 1.62% higher than the CPI for the 4 quarters of 2019–20 (ABS, Consumer Price Index, Australia 640101), accessed 22 June 2023.

14 Under Regulation 133 of the Qld Water Regulations 2016. The Department of Regional Development, Manufacturing and Water's schedule of charges for the Border Rivers water supply scheme states that: Generally, the Queensland Government undertakes the necessary policy work and consultation with the public and stakeholders before a charge or fee is to be introduced or a significant change is made. In the past, the fees and charges listed in schedule 12 and 14 of the Water Regulation 2016 were generally indexed annually in line with the consumer price index (CPI) and subject to Governor in Council approval for introduction of the fees and charges through legislation. The actual inflation rate was 4.5% in 2021–22, as measured by the change in the average of the CPI (Australia, All groups) for the 4 quarters of 2021–22 over the 4 quarters of 2020–21. However, regulators normally index prices for the coming year on the basis of earlier known inflation rates. The inflation rate for 2020–21 was 1.6%. (ABS, Consumer Price Index, Australia 640101, accessed 22 June 2023).

New South Wales: Typical on-river bills rose for WaterNSW customers due to IPART's price review and the ending of the drought rebate

In contrast to Queensland, typical on-river bills for NSW rose substantially in 2021–22 due to the ending of the NSW government's drought rebate and IPART's 2021 price review that WaterNSW's efficient forecast capital and operational costs, including dam safety measures, had risen compared to the previous regulatory period.

When calculating the rise in on-river typical bills for NSW in 2021–22 compared to 2020–21, we used percentage points to attribute the percentage increase to IPART's 2021 price review and to the ending of the NSW government's drought rebate.

Typical on-river bills calculated by the ACCC rose by an average 59% for general security water access entitlements (averaged across all valleys), 26 percentage points of which were due to IPART's 2021 price review that adjusted prices to a level that reflects longer term cost recovery.[15] The ending of the NSW government's drought assistance rebate contributed the remaining 33 percentage points for general security entitlements (averaged across all valleys). The biggest overall rise in typical on-river bill was in the Murrumbidgee regulated river system where the typical bill for 1,000 ML of general security water access entitlement (100% delivered) rose by 98%. 75 percentage points **of the 98% increase** was due to the ending of the rebate and 23 percentage points was due to IPART's 2021 review.

In most cases, rises in typical bills calculated by the ACCC for NSW off-river operators, particularly larger ones like Murrumbidgee Irrigation, Coleambally and Murray Irrigation, were driven by rises in the on-river component of these bills, due to IPART's 2021 price review and the ending of the drought rebate.

South Australia and Victoria: Typical bills calculated by the ACCC for Victorian and South Australian irrigators rose by less than inflation in 2021–22

In Victoria, Goulburn Murray Water (GMW) and Lower Murray Water's (LMW) charges are regulated by the Essential Services Commission Victoria (ESCV) in accordance with the water charge rules. Charges levied by GMW and LMW have risen by less than inflation since 2019–20, meaning they have fallen in real terms.

South Australian River Murray operations and water storage for South Australia are largely managed upstream, with water sharing arrangements occurring in accordance with the Murray Darling Basin Agreement. The typical on-river bill calculated by the ACCC for private diverters in the South Australian River Murray, which only includes a single water planning and management charge, fell in real terms in 2021–22 compared to 2020–21. Off-river typical bills for Central Irrigation Trust (CIT) and Renmark Irrigation Trust (RIT) also rose by less than inflation in 2021–22 compared to 2020–21.

South Australia: SA Water published the charges it levies on transportation customers

SA Water is a statutory corporation owned by the South Australian government, which mostly delivers urban water throughout South Australia. SA Water also delivers water to Barossa Infrastructure Limited (BIL) under an individually negotiated non-standard transportation agreement, and some irrigation customers in the Clare, Eden and Barossa valleys under standard 'transportation

15 For 1,000 ML of water access entitlements with 100% of that nominal entitlement delivered.

agreements.' The Essential Services Commission of South Australia (ESCOSA) regulates SA Water's revenue and service standards but does not directly oversee the income that SA Water receives from its water transportation services. In 2020–21, SA Water published the charges it levies on BIL and its other transportation customers for the first time. These charges are substantially higher than any other regulated water charges monitored by the ACCC, reflecting the cost of transporting water significant distances from the River Murray to these customers. The charges levied by SA Water on BIL are cheaper than the charges levied on its other transportation customers since BIL made a capital contribution of more than $13 million, which allowed SA Water to upgrade its infrastructure to enable SA Water to transport BIL's required volume of water.[16]

Transformation and terminations have slowed

Previous ACCC water monitoring reports have explained that transformations and terminations in the early years (2010–11 to 2014–15) after the Rules commenced followed trends in Australian Government acquisitions of water access entitlements (through buybacks and investments in water infrastructure upgrades).[17] However, in recent years, irrigators have transformed relatively small volumes of irrigation rights. In 2021–22, NSW irrigators transformed 23,394 ML of irrigation rights (representing 1.0% of the irrigation rights on issue), and South Australians transformed 2,768 ML of irrigation rights (2.1% of the irrigation rights on issue).

Victorian irrigation infrastructure operators have previously reported fewer transformations compared to New South Wales. This is because in 2007 the Victorian Government unbundled water entitlements and nearly all irrigation rights were transformed into tradeable water entitlements. However, in 2021–22 GMW processed 7 transformations equating to a total of 266.5 ML of irrigation rights. These originated in syndicates which had water supply agreements with GMW.[18] LMW did not process any transformations in 2021–22.

Across the Basin, the water delivery rights terminated was a very small proportion of the rights on issue in 2021–22 (0.1% or less for last 8 years).

The Basin Plan 2012 sets sustainable diversion limits, which cap how much water can be taken from Basin rivers for town, industrial and agricultural use, while leaving enough water to sustain natural ecosystems.[19] The Basin Plan's primary water recovery target was calculated by comparing the difference between the baseline diversion limits and the sustainable diversion limits. The baseline diversion limits are an estimate of water use limits and water used in the Basin prior to the Basin Plan.[20] The difference between the baseline and sustainable diversion limits is known as the 'gap' and is a total of 2,750 GL per year. The measures being used to 'bridge the gap' include infrastructure investments, water purchases and supply and constraints measures.[21] To 31 March 2023, the

16 See: SA Water (2022) Barossa Infrastructure Limited (BIL) schedule of charges, accessed 4 May 2023. The schedule for 2021–22 was no longer live on SA Water's website at the date of publication of this report. However, SA Water's 2022–23 schedule of charges for BIL states: "BIL has made capital contributions to SA Water in excess of $13 million to enable water transportation." See also: Barossa Infrastructure Limited (2023), About Us, accessed 25 May 2023.

17 ACCC (2020) Water Monitoring Report 2018–19, p 19.

18 A syndicate is a group of people who hold an entitlement together. See Victorian water register, Water dictionary, accessed 4 April 2023. Syndicates sometimes manage shared water service infrastructure.

19 Section 6.04(2) of the Basin Plan 2012. Murray–Darling Basin Authority (2023), Sustainable diversion limit adjustment mechanism, accessed 3 July 2023.

20 Murray–Darling Basin Authority (2022), Current diversion limits for the Basin, accessed 3 July 2023.

21 A 'constraint' is a technical term for anything that reduces the ability to deliver water for the environment. Constraints can include physical restrictions such as low-lying bridges, crossings or private land. Constraints can also include operational aspects such as river rules or operating practices. See Murray–Darling Basin Authority (2021), Managing constraints, accessed 3 July 2023. There is also a target to recover an additional 450 GL per year for enhanced environmental outcomes. Measures to achieve these outcomes include efficiency measures with neutral or positive socio-economic impacts. Department of Climate Change, Energy, the Environment and Water (2023), How we recover water in the Murray Darling Basin, accessed 3 July 2023.

Australian Government had recovered through purchasing water access entitlements (for surface water) with a long-term average annual yield of 1,231.2 GL.[22] However, most of these purchases occurred before 2015–16 and the Productivity Commission and the Murray Darling Basin Authority have identified significant risks that sustainable diversion limit adjustment mechanism measures will not be implemented by the June 2024 deadline.[23]

In February 2023, the Australian Government announced a voluntary strategic water purchasing process to bridge the gap across 7 target catchments in the Murray–Darling Basin from March 2023.[24] This could increase transformation and termination volumes in 2023–24 and, if further buybacks are undertaken to recover water to achieve Basin Plan targets, in future years.

The structure of this report is different to previous water monitoring reports

This is the ACCC's 13th Water Monitoring Report. The structure of this report is different to previous reports. It is divided into Basin states and river valleys, which allows the report to highlight the impact of regulated water charges in each Basin state. This report also incorporates our assumptions for typical bills, which were previously included in a separate document.

22 Department of Climate Change, Energy, the Environment and Water (2023) Australian Government water purchasing in the Murray–Darling Basin, accessed 15 May 2023.

23 Productivity Commission (2023), Murray–Darling Basin Plan Implementation review 2023, accessed 3 July 2023.

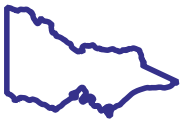
24 Department of Climate Change, Energy, the Environment and Water (2023), Australian Government water purchasing in the Murray–Darling Basin, accessed 15 May 2023.

Key messages

The ACCC received 7 complaints about water-related matters in 2021–22. Only one of these complaints was from an irrigator. This continued a downward trend since 2018–19.

Typical on-river bills for Sunwater irrigators fell in 2021–22 compared to 2020–21 due to Queensland government discounts.

Typical on-river bills for New South Wales rose substantially in 2021–22 compared to 2020–21 due to the ending of the NSW government's drought rebate and IPART's 2021 review, which decided that WaterNSW's efficient forecast capital and operational costs, including dam safety measures, had risen compared to the previous regulatory period.



Goulburn Murray Water and Lower Murray Water typical bills fell in real terms.

Typical bills for South Australian private diverters, and Central Irrigation Trust and Renmark Irrigation Trust customers fell in real terms.

The charges that SA Water levies on its transportation customers are higher than any other regulated water charges monitored by the ACCC throughout the Basin, reflecting the higher cost of service.

Irrigators have transformed small volumes of irrigation rights in 2021–22.

Across the Basin, the water delivery rights terminated was a very small proportion of the rights on issue (less than 1%).

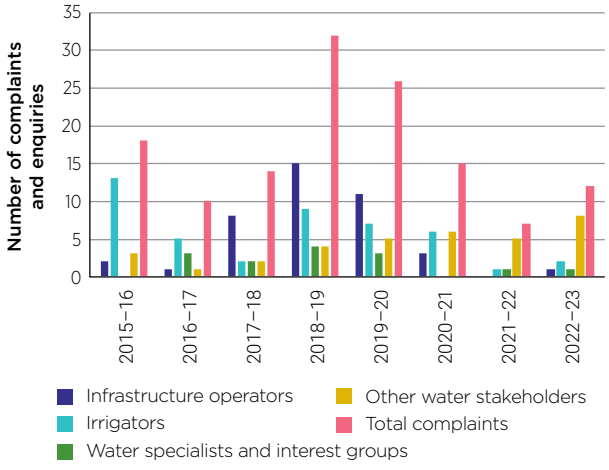
Snapshot of findings 2021–22

Average cost per megalitre of water delivered by off-river infrastructure operators based on 250 ML of water access entitlements or irrigation rights and 100% of that water delivered in 2021–22

	Pressurised networks	Gravity fed networks
New South Wales	$115	$55
Victoria	$121	$79
South Australia	$84[25]	n/a
Queensland	n/a	$65
Highest	$222 Lower Murray Water	$148 Lower Murray Water
Lowest	$66 Central Irrigation Trust	$21 Eagle Creek
Average	$103	$60

Complaints

Complaints to the ACCC about water matters are very low. We received 7 in 2021–22.



Water deliveries by on-river operators increased by 35% in the northern Basin and 12% in the southern Basin in 2021–22 compared to 2020–21

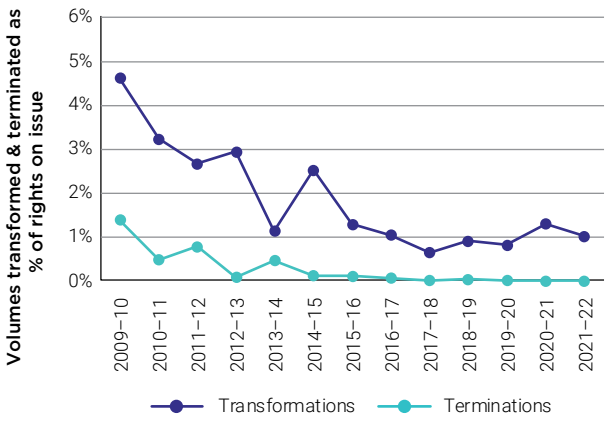
	2020–21 (GL)	2021–22 (GL)
Northern Basin	614	826
Southern Basin	5,896	6,626
Total	**6,510**	**7,452**

Water deliveries by off-river operators increased by 47% in the northern Basin and 1% in the southern Basin in 2021–22 compared to 2020–21

	2020–21 (GL)	2021–22 (GL)
Northern Basin	116	170
Southern Basin	3,122	3,140
Total	**3,238**	**3,311**

Transformations and terminations

Transformations of irrigation rights and terminations of water delivery rights were very low compared to the total volumes of these rights on issue in 2021–22.



25 This only includes charges levied by Renmark Irrigation Trust and Central Irrigation Trust.

National comparison – on-river typical bills

Chart 1 The percentage change from 2020–21 in the cost of having one ML of water delivered in the southern Basin, based on 1,000 ML of water access entitlements (100% delivered)

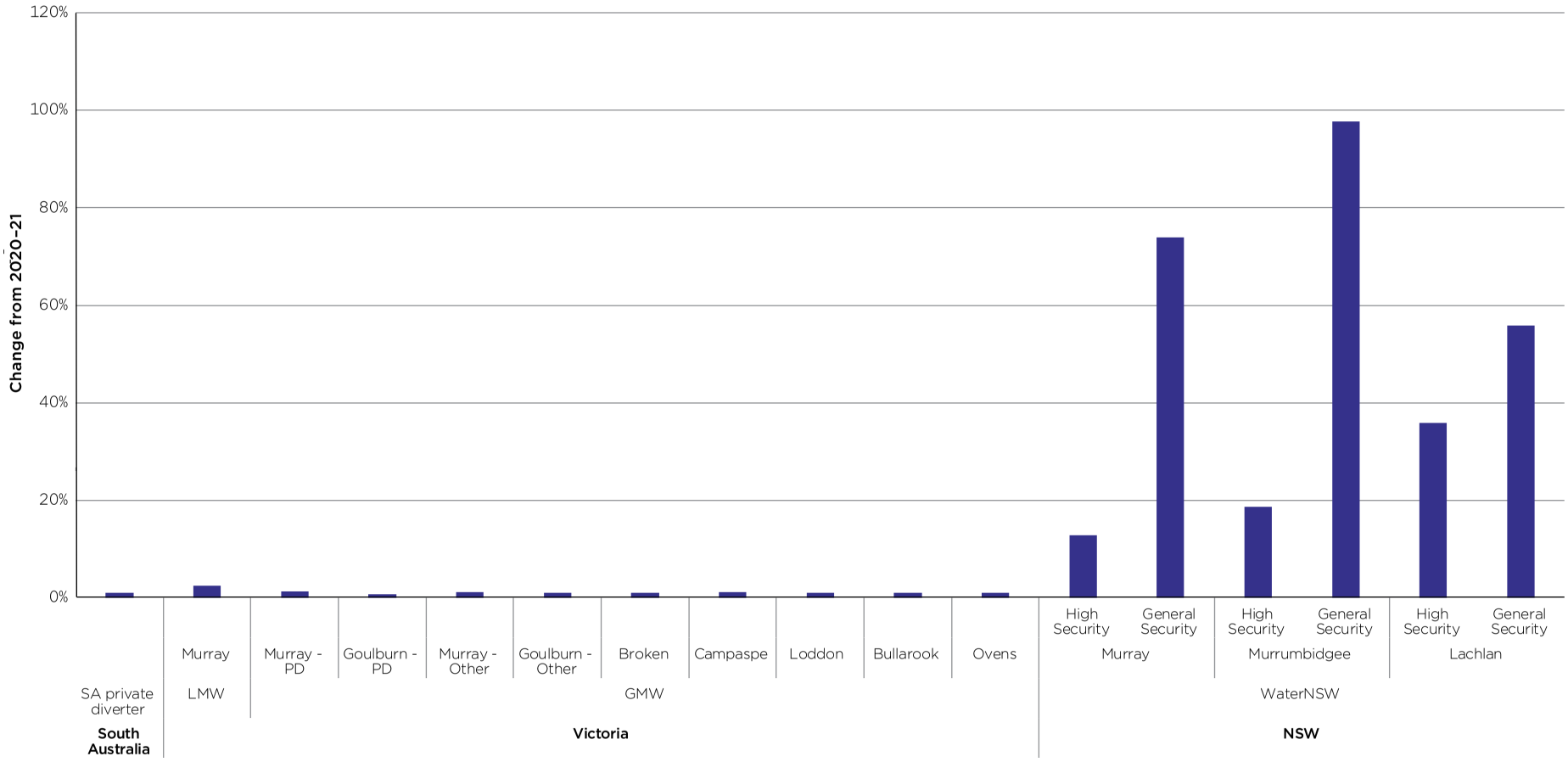
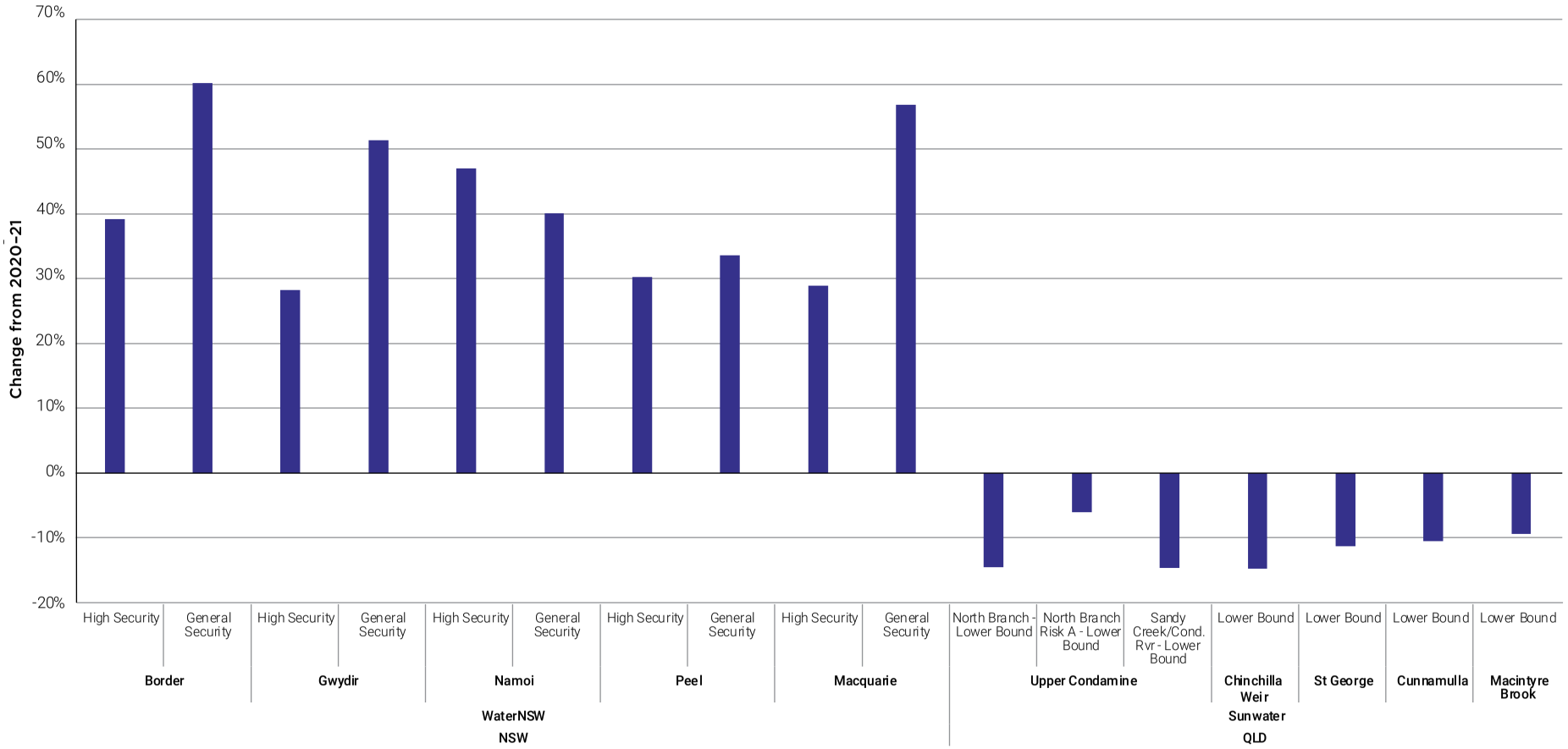


Chart 2 The percentage change from 2020–21 in the cost of having one ML of water delivered in the northern Basin, based on 1,000 ML of water access entitlements (100% delivered)



National comparison – off-river typical bills

Table 1 The cost of having one ML of water delivered via pressurised off-river networks in the Basin, based on 250 ML of irrigation rights or water access entitlements (100% delivered), 2021–22 and change from 2020–21[26]

Basin State	Irrigation infrastructure operator	Network/entitlement category	$/ML	Change from 2020–21 (%)
SA	CIT	High pressure	95	1.5
		Medium pressure	80	1.4
		Low pressure	66	1.2
	RIT		96	1.0
Vic	GMW	Tresco	86	1.0
		Nyah	89	1.2
		Woorinen	87	-0.9
	LMW	Robinvale	222	0.4
NSW	Western Murray	Curlwaa	85	6.4
		Coomealla	112	4.9
		Buronga	173	2.7
	Murrumbidgee Irrigation	Integrated Horticulture Supply high security	89	-10.8
Average	SA		84	1.3
	Vic		121	0.4
	NSW		115	0.8

Source: ACCC from data provided and published by irrigation infrastructure operators.

Notes: CIT = Central Irrigation Trust, RIT = Renmark Irrigation Trust, GMW = Goulburn-Murray Water, LMW = Lower Murray Water, Western Murray = Western Murray Irrigation, Murrumbidgee Irrigation = Murrumbidgee Irrigation Limited
This is based on the assumptions used by the ACCC to prepare typical bills for these operators, as described in the relevant State chapter. This table compares the dollar value of 1 ML for 250 ML of water delivered.

26 The cost of having one megalitre of water delivered via an off-river network varies substantially across the Basin. This reflects volumes of water delivered, network size, location, type of service, tariff structures and whether the infrastructure operator's network is gravity-fed or pressurised. Differing economic regulatory arrangements across the Basin States also impact the on-river component of these charges.

Table 2 The cost of having one ML of water delivered via gravity-fed off-river networks in the Basin, based on 250 ML of irrigation rights or water access entitlements (100% delivered), 2021–22 and change from 2020–21[27]

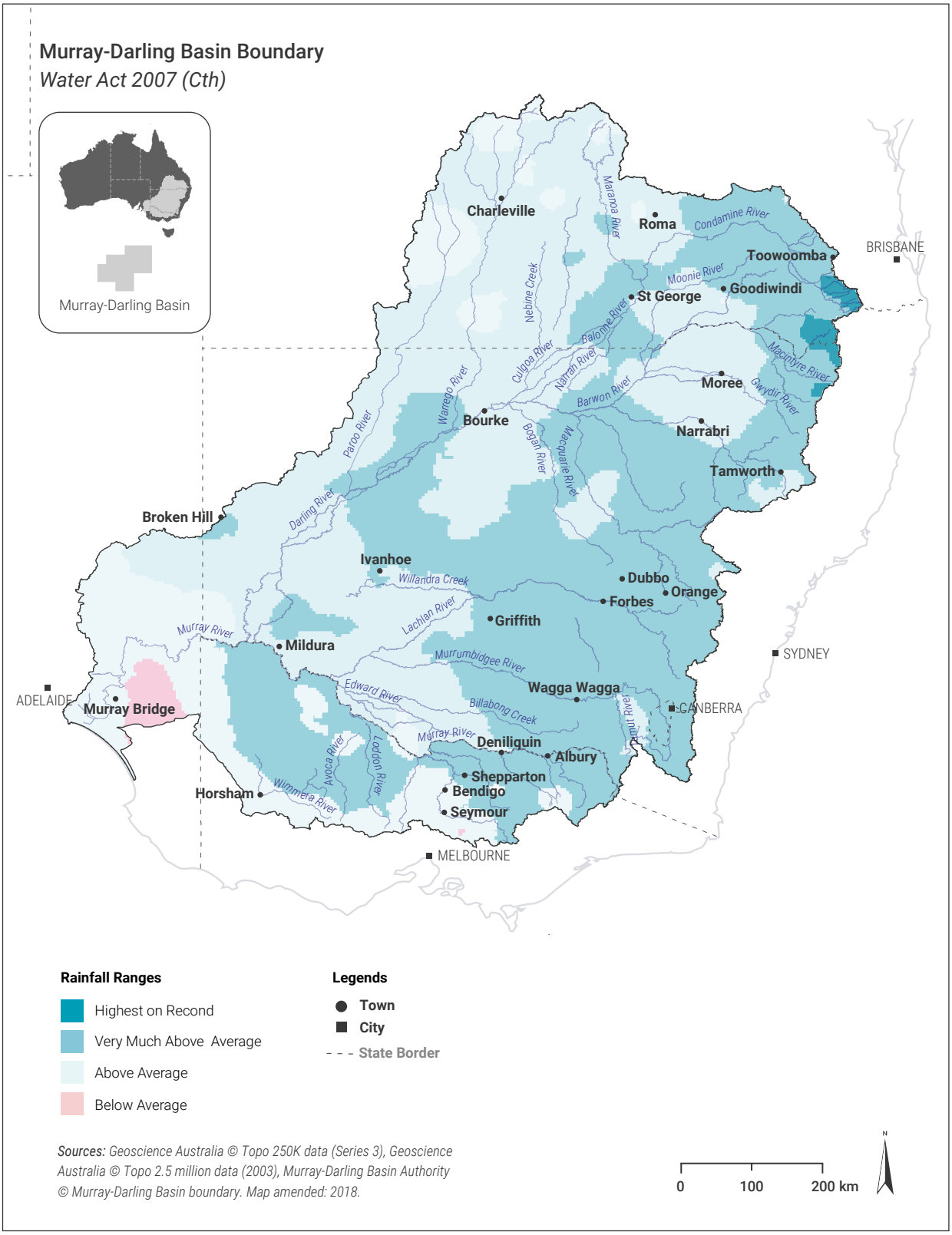
Basin State	Irrigation infrastructure operator	Network/entitlement category	$/ML	Change from 2020–21 (%)
Vic	GMW	Central Goulburn	55	0.2
		Loddon Valley	55	1.4
		Murray Valley	57	0.5
		Rochester	54	-0.1
		Shepparton	57	-1.0
		Torrumbarry	54	-0.1
	LMW	Merbein	113	-5.7
		Mildura	148	-0.5
		Red Cliffs	119	-7.8
NSW	West Corurgan		52	23.3
	Moira		51	21.7
	Murray Irrigation	B1 Class C	48	19.3
	Eagle Creek		21	54.0
	Coleambally		29	19.3
	Murrumbidgee Irrigation	Gravity – General Security	41	14.8
		Gravity – High Security	45	6.7
	Hay		67	5.9
	Jemalong		78	34.4
	Narromine		76	23.0
	Buddah Lake		55	17.7
	Trangie-Nevertire		68	22.1
	Tenandra		82	14.5
Qld	Mallawa Irrigation		65	-3.8
Average	Vic		79	-1.5
	NSW		55	20.2
	Qld		65	-3.8

Notes: GMW = Goulburn-Murray Water, LMW = Lower Murray Water, Western Murray = Western Murray Irrigation, Murrumbidgee Irrigation = Murrumbidgee Irrigation Limited, Murray Irrigation = Murray Irrigation Limited
This is based on the assumptions used by the ACCC to prepare typical bills for these operators, as described in the relevant State chapter. This table compares the dollar value of 1 ML for 250 ML of water delivered.

27 The cost of having one megalitre of water delivered via an off-river network varies substantially across the Basin. This reflects volumes of water delivered, network size, location, type of service, tariff structures and whether the infrastructure operator's network is gravity-fed or pressurised. Differing economic regulatory arrangements across the Basin States also impact the on-river component of these charges.

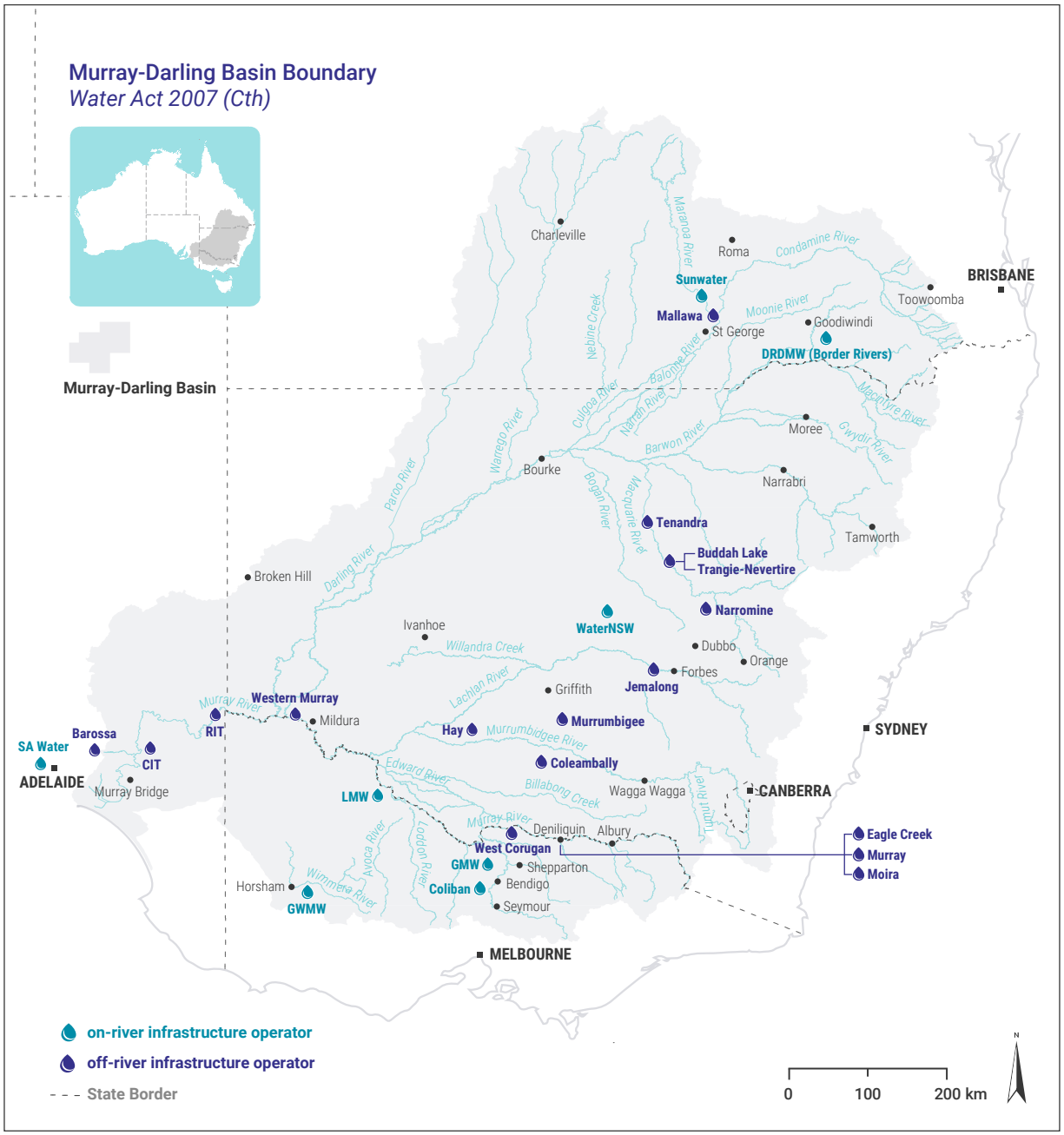
Maps

Figure 1 Rainfall in 2021-22 in the Murray–Darling Basin



Note: Rainfall data sourced from the Bureau of Meteorology.

Figure 2 Infrastructure operators in the Murray–Darling Basin



Sources: *Geoscience Australia © Topo 250K data (Series 3), Geoscience Australia © Topo 2.5 million data (2003), Murray-Darling Basin Authority © Murray-Darling Basin boundary. Map amended: 2018.*

Buddah Lake – Buddah Lake Irrigators' Association
Barossa – Barossa Infrastructure Limited
Coleambally – Coleambally Irrigation Co-operative
Coliban – Coliban Water
CIT – Central Irrigation Trust
DRDMW – Qld Department of Regional Development, Manufacturing and Water
Eagle Creek – Eagle Creek Pumping Syndicate
GWMW – Grampians Wimmera Mallee Water
GMW – Goulburn-Murray Water
Hay – Hay Private Irrigation District
Jemalong – Jemalong Irrigation Limited
LMW – Lower Murray Water
Marthaguy – Marthaguy Irrigation Scheme
Moira – Moira Private Irrigation District
Murray – Murray Irrigation Limited
Murrumbidgee – Murrumbidgee Irrigation Limited
Narromine – Narromine Irrigation Board of Management
RIT – Renmark Irrigation Trust
Tenandra – Tenandra Irrigation Scheme
Trangie-Nevertire – Trangie-Nevertire Irrigation Scheme
West Corurgan – West Corurgan Private Irrigation District
Western Murray – Western Murray Irrigation

Note: This map is based on the post code of operators' main offices. **WaterNSW** delivers water throughout NSW. **SA Water** delivers water throughout South Australia.

1. Introduction

The Murray–Darling Basin (the Basin) is the largest and most complex river system in Australia. It stretches from southern Queensland, through New South Wales (NSW), Victoria and the Australian Capital Territory and into South Australia. It is home to 2.3 million Australians and supports a $22 billion agriculture industry annually (40% of Australia's agriculture production).[28] As shown in figure 1, weather conditions were very wet across the Basin in 2021–22.

The Basin is divided into 2 parts: the northern and southern Basins. Water in the northern Basin runs into the Darling River and water in the southern Basin runs into the River Murray. The southern part of the Basin is mostly a regulated system with major storages in many rivers. The storages in the 3 major southern rivers – the Murrumbidgee, Murray, and Goulburn – are used to provide regulated flows downstream as far as the lower lakes in South Australia. The ACCC has included the Lachlan, which runs into the Murrumbidgee, in the southern basin, for the purposes of this report.

The volume of water delivered by infrastructure operators, and the crops it is used for varies widely across the Basin. For example, annual crops like cotton are more common in the northern Basin (Queensland and northern NSW), whilst permanent plantings like almond and fruit trees are more common in the southern Basin.

In recent years, there has been a substantial expansion of the almond industry in the southern Basin, especially on the River Murray below the Barmah Choke.[29] The southern Basin also includes significant areas of broadacre cropping in southern NSW (including annual crops such as rice, cotton and pasture), dairy farming and horticulture in northern Victoria, and horticulture in South Australia.

The southern Basin accounts for a large proportion of Australia's irrigated agricultural production and a large volume of Australia's water access entitlements on issue.[30] This is reflected in the fact that in 2021–22, on-river operators delivered 826 GL of water in northern Basin (up 35% compared to 2020–21) but 6,626 GL in the southern Basin (up 12% compared to 2020–21).

An infrastructure operator is an entity that owns or operates infrastructure for the storage, delivery or drainage of water for the purposes of providing a service to someone who does not own or operate the infrastructure.[31] Some infrastructure operators store and deliver water on-river. These operators include WaterNSW, Sunwater and the Department of Regional Development, Manufacturing and Water (DRDMW) in Queensland, and Goulburn-Murray Water (GMW) in Victoria. They are referred to as either bulk water operators or on-river operators.

An irrigation infrastructure operator is an infrastructure operator that owns or operates water service infrastructure for delivering water for the primary purpose of irrigation.[32] Apart from GMW and Lower Murray Water (LMW) in Victoria, which are government-owned statutory corporations, irrigation infrastructure operators in the Basin are member-owned entities, which exclusively provide off-river water delivery services. They can therefore be referred to as off-river operators. GMW is also the only infrastructure operator that is vertically integrated, providing both on-river and off-river water delivery services. It is both a bulk water operator and an irrigation infrastructure operator.

28 Murray–Darling Basin Authority (2023) The Basin, accessed 11 July 2023.

29 The Barmah Choke is where the Murray River runs through the Barmah–Millewa Forest, upstream of Echuca in Victoria. It is the most well-known hydrological constraint in the southern Basin

30 See: ACCC (2021), Murray–Darling Basin – water markets inquiry – Final report, p 54.

31 Section 7 of the *Water Act 2007 (Cth)*.

32 Section 7(4) of the *Water Act 2007 (Cth)*.

All infrastructure operators have some degree of market power given that the infrastructure they operate is generally uneconomic to duplicate and they operate in geographically exclusive areas where competition is unlikely to develop and are therefore regarded as natural monopolies.

Irrigation infrastructure operators may have an incentive to prevent or delay applications from customers to transform their irrigation rights into a water access entitlement that can be traded outside of the operators' irrigation networks. This is because some operators could perceive a threat to their business model, which is usually based on customers paying the operator for the delivery of water. For example, an irrigator that transforms their irrigation rights, sells the resultant water access entitlements, and switches to dryland farming may no longer require water to be delivered to their property. This person may therefore wish to cease paying ongoing fixed infrastructure charges to the operator for their water delivery rights. In such circumstances, the water charge rules allow the operator to levy a termination fee on the terminating customer. The water charge rules aim to strike a balance between the interests of terminating and remaining irrigators, and the operator by limiting the termination fee that the operator can impose, while ensuring a contribution from terminating irrigators to the ongoing fixed costs of operating the infrastructure.[33]

Water trade in the Murray–Darling Basin

Water markets allow irrigators to increase their water supplies, to earn income by selling their water rights when the water is more valuable to someone else, to expand production, or to release capital for investment in their businesses. The following kinds of rights are tradeable water rights:

- **water access entitlement:** a perpetual or ongoing entitlement, by or under a law of a State, to exclusive access to a share of the water resource of a water resource plan area
- **irrigation right:** a person's right against an irrigation infrastructure operator to receive water, which is not a water access right or a water delivery right. It can usually be transformed into a water access entitlement
- **water allocation:** a specific volume of water allocated to a water access entitlement in a specific water accounting period
- **water delivery right:** a right to have water delivered by an infrastructure operator. It typically represents the holder's right of access to an irrigation network (there might also be a right to drainage) and can be terminated.[34]

33 The rules limit the maximum general termination fee that an infrastructure operator can levy to 10 times the fixed volumetric charges for the right of access the customer wishes to terminate (subject to specified exclusions). This is levied per unit of water delivery or drainage right for a full financial year, or if an infrastructure operator does not allow the trade of the type of water delivery or drainage right that the customer wishes to terminate, the amount (**not** 10 times the amount) of the fixed volumetric charges. This is levied per unit of water delivery or drainage right for a full financial year. Where there is a separate charge for dedicated infrastructure used exclusively by the terminating customer, which will no longer be used by the customer after the termination, the maximum general termination fee relating to that dedicated infrastructure is the lesser of: a) 10 times the amount of the separate charge for that infrastructure for a full financial year, or b) a reasonable estimate of the total cost of the dedicated infrastructure, net of a reasonable estimate of any contribution towards that cost made by the terminating customer, whether via direct contribution (for example, a lump sum payment) or via the payment of the separate infrastructure charge. In some circumstances where an infrastructure operator and its customer have a contract involving capital works relating to the operator's water service infrastructure, the ACCC can approve an additional termination fee to allow for the recovery of expenditure relating to those works. See ACCC (2020) What the charge rules mean for infrastructure operators and irrigators and ACCC (2016) Review of the water charge rules Final Advice, p 264.

34 These definitions are in s. 4 of the *Water Act 2007 (Cth)*.

The ACCC's role in water

The *Water Act 2007* (the Water Act) provides the frameworks and institutions to ensure that the Basin is managed in the national interest. The ACCC has several roles under the Water Act. These are monitoring regulated water charges (including termination fees), transformations, and compliance with the Water Market Rules and Water Charge Rules (the Rules). The ACCC also provides advice to the Minister on the Rules, and advice to the Murray–Darling Basin Authority (MDBA) on the Basin Plan water trading rules.[35]

The purpose of the ACCC's water monitoring report is to inform stakeholders, including policy makers, of changes in regulated water charges and other factors influencing the rural water sector in the Basin. Transparency helps water markets to work efficiently and assists policy makers to assess the impact of reforms to the regulatory framework. We monitor:

- **regulated water charges** because competition is unlikely to develop between infrastructure operators in geographically exclusive areas for water harvesting, storage and delivery services. Without competition, prices, quality, service levels and innovation may not be efficient. Monitoring helps policy makers determine whether further regulation is needed. Monitoring may also provide some indication of infrastructure operators exercising market power over irrigators and other customers. We also monitor water planning and management charges, which usually fund State government water planning and management activities[36]
- **transformation arrangements** to ensure irrigation infrastructure operators are not preventing or unreasonably delaying transformation or an associated trade. Transformation allows water formerly available to a customer under an irrigation right to be held directly by the customer or traded to another person. Monitoring transformation arrangements may increase compliance with the Rules, reduce barriers to trade, facilitate the operation of efficient water markets and reduce transaction costs[37]
- **compliance with the Rules** to ensure effective implementation of the Rules and to help identify when the Rules may not be working as intended.

35 The ACCC's functions arise under Part 2 (ss.22, 26 – advice on the water trading rules), Part 4 (ss.91–93, water charge rules; ss.94, 99 monitoring) and Part 8 (enforcement) of the Water Act.

36 Regulated water charges are defined in s. 91 of the Water Act. They include charges that operators impose for access to their water service infrastructure, and for services provided in relation to that access. This includes bulk water charges, which are charges payable for either or both the storage of water for, or the delivery of water to, infrastructure operators, other operators of reticulated systems, or other persons prescribed by the regulation 1.05 of the Water Regulations for the purposes of the definition of bulk water charge is s. 4(1) of the Water Act. Water planning and management charges are also included in the definition of regulated water charges.

37 Transformation arrangements are defined in s. 97(1) of the Water Act. They are arrangements that reduce the share component of a water access entitlement of an irrigation infrastructure operator to allow a person's entitlement to water under an irrigation right against the operator (or a part of that entitlement) to be permanently transformed into a water access entitlement that is held by someone other than the operator.

We also enforce the *Competition and Consumer Act 2010 (Cth)*, including the Australian Consumer Law, which applies to both the behaviour of infrastructure operators and water brokers and exchanges.

Following the ACCC's water market inquiry and the water market roadmap, the Australian government plans to legislate new functions for the ACCC as the water market conduct regulator in the Basin. These new functions were recommended by the water market reform roadmap[38] which responded to the ACCC's water markets inquiry.[39] The new functions will include Basin wide laws that address harmful market conduct including:

- bans on market manipulation
- stronger insider trading rules
- a mandatory code of conduct for water market intermediaries.

38 The Hon Tanya Plibersek MP, Minister for the Environment and Water, released the independent Water market reform: final roadmap report on 11 October 2022, alongside the Australian government's response. The roadmap report was developed by the independent Principal Advisor, Mr Daryl Quinlivan AO following consultation with water market participants, including Basin governments and industry.

39 On 8 August 2019, the ACCC was directed to conduct an inquiry into markets for tradeable water rights in the Murray–Darling Basin. This final report for the inquiry draws on: the views of a broad range of stakeholders with interests in the use and trade of water in the Basin, analysis of wide-ranging water market data from 2012 onwards. Other information and documents gathered from various large water users, investors, market intermediaries and government entities. The report makes recommendations to enhance markets for tradeable water rights, including their operation, transparency, regulation, competitiveness and efficiency.

2

Queensland

2. Queensland

Rainfall and announced allocations were high in the Queensland Basin in 2021–22.[40] This coincided with high commodity prices.

Sunwater is the largest bulk water operator in Queensland. It provides on-river water delivery services to irrigators and other customers (including for example, industry and local councils). Chinchilla Weir, Upper Condamine, St George, Maranoa, Cunnamulla and Macintyre Brook are on-river water supply schemes operated by Sunwater.

Sunwater levies different charges depending on whether the customer is an irrigator or not.[41] Typical on-river bills calculated by the ACCC for Sunwater irrigator customers fell by between 6% and 15% (average fall of 12%) in 2021–22 compared to 2020–21. This is largely because the Queensland government discounted the charges recommended by the Queensland Competition Authority (QCA) by 15%.[42] Horticulturists were eligible for an additional 35% rebate.[43] By comparison, the typical bill for Sunwater's non-irrigation customers rose by 2%.

On 1 July 2018, Mallawa Irrigation Limited (Mallawa) took over the (off-river) St George channel scheme. The scheme was formerly owned and managed by Sunwater and comprises 112 kilometres of off-river pipelines and channels between the Balonne River and Buckinbah pump station. Mallawa is the only off-river infrastructure operator in the Queensland Basin and is in the St George water supply scheme. Mallawa is member-owned and meets the definition of an irrigation infrastructure operator because it is an infrastructure operator that operates water service infrastructure for the purposes of delivering water for the primary purpose of irrigation.

Sunwater manages the bulk water supply assets in the on-river St George water supply scheme, and Mallawa's customers pay Sunwater's charge directly to Sunwater (except for Sunwater charges related to Mallawa's conveyance entitlement).

The Queensland Department of Regional Development, Manufacturing and Water (DRDMW) provides water storage and delivery services in the Border Rivers water supply system. The charges levied by DRDMW for these services are set by Queensland regulations and rose by less than 2% in 2021–22 compared to 2020–21, a fall in real terms.[44]

This chapter covers:

- the volume of water delivered by Sunwater and DRDMW in 2021–22 compared to 2020–21
- on-river typical bills calculated by the ACCC for Sunwater and DRDMW customers in the Basin
- transformation and termination volumes and typical bills for Mallawa Irrigation
- water planning and management in the Queensland part of the Murray–Darling Basin (Basin).

40 Queensland uses different terminology to other Basin states. In New South Wales and Victoria, a water allocation is the volume of water allowed to be used over a period of time. This is referred to as a 'announced allocation' in Queensland. A water allocation in Queensland is the authority to take water and an entitlement to a share of the available water in a catchment or storage. This is a water access entitlement under the *Water Act 2007 (Cth)*. Announced allocations are available at Business Queensland (2023), announced entitlements and announced allocations, accessed 24 May 2023.

41 Under the *Queensland Competition Authority Act 1997 (Qld)*, the responsible Minister may refer the QCA to investigate the pricing practices of Sunwater's monopoly business activities. The charges levied by Sunwater on irrigators are set by the Queensland Government after the Queensland Competition Authority (QCA) makes recommendations.

42 Queensland Government Gazette, vol 387, 4 June 2021, p 122.

43 This additional rebate is not included in the typical bill calculated by the ACCC because not all irrigators were eligible for it.

44 The actual inflation rate was 4.5% in 2021–22, as measured by the change in the average of the CPI (Australia, All groups) for the 4 quarters of 2021–22 over the 4 quarters of 2020–21. However, regulators normally index prices for the coming year on the basis of earlier known inflation rates. The inflation rate for 2020–21 was 1.6%. (ABS, Consumer Price Index, Australia 640101, accessed 22 June 2023).

Sunwater is the largest bulk water operator in Queensland

Sunwater is a Queensland Government-owned corporation and is the largest bulk water operator in Queensland. Sunwater's core service is to store and release water to satisfy customer demand, subject to customers' water access entitlements. It owns 19 dams, 64 weirs and barrages, 79 pumping stations, and more than 2500 kilometres of pipes and channels, which are used to deliver water to more than 5000 customers in Queensland, including urban and industrial customers.[45] It provides bulk water services to around 470 customers in the Basin.[46]

Sunwater delivered a total of 73,060 ML of water to Queensland Basin customers in 2021–22. This was an increase of 109% from 2020–21 and reflects the rainfall that bolstered available water.

In December 2021, the ACCC decided to exempt Sunwater from the operation of Part 6 of the Water Charge Rules 2010 (water charge rules) for 5 years.[47] This means that Sunwater's charges are set under Queensland State law, rather than by the ACCC under Part 6 of the water charge rules.

The Queensland government discounted Sunwater on-river bills for irrigators

Sunwater's irrigation charges are set by the Queensland government[48] after the QCA recommends charges that aim to reflect lower bound pricing. Sunwater's charges for both irrigators and non-irrigators comprise a fixed charge (Part A) charged per ML of nominal water access entitlement, and a volumetric charge (Part B) charged per ML of water taken during a particular water year. Typical on-river bills calculated by the ACCC for Sunwater irrigator customers fell by between 6% and 15% (average fall of 12%) in 2021–22 compared to 2020–21. This was partly because the Queensland government discounted the charges recommended by the QCA by 15%. Horticulturists were eligible for an additional 35% discount.[49]

45 Sunwater (2022) 2021–2022 annual report, p 5., accessed 22 May 2023. Sunwater (2023), Customer, accessed 16 June 2023. QCA (2020) Rural irrigation price review 2020–24 Part B: Sunwater, pp 1–2, accessed 22 June 2023.

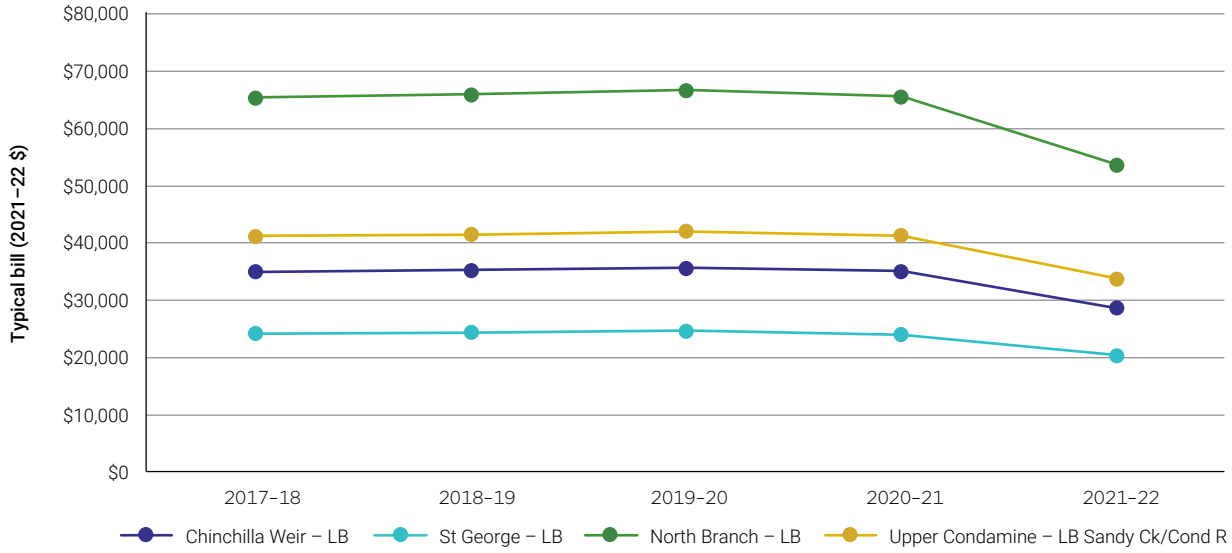
46 2021–22 ACCC Information Request. Specific water scheme statistics for 2021–22 are available at the Sunwater (2022) Annual Report Statistics, accessed 14 May 2023.

47 ACCC (2021). Decision on whether to exempt Sunwater from its Part 6 obligations under the water charge rules. Specific water scheme statistics for 2021–22 are available at Sunwater (2022) Annual Report Statistics, accessed 4 July 2023.

48 Sunwater's 'shareholding Ministers' who give a direction on the rural irrigation water prices pursuant to section 999 of the *Water Act 2000 (Qld)*.

49 This additional rebate is not included in the typical bill calculated by the ACCC because not all irrigators were eligible for it.

Chart 2.1 Lower Bound typical bills (2021–22 $) for selected water supply schemes, 1,000 ML of water access entitlements, 100% water delivered, Sunwater



Source: ACCC from data provided by Sunwater.

The QCA's recommended charges generally aim to achieve lower bound pricing for irrigation customers. While lower bound prices are referred to as 'cost reflective', the water business is neither earning a return on, nor recovering, the initial investment in the existing assets. The Queensland Government's policy is that prices should increase gradually until they reach a cost-reflective level, 'where they recover the irrigation share of the water scheme's operating, maintenance and capital renewal costs but do not recover a return on, or of, the scheme's initial asset base (at 1 July 2000)'.[50]

In 2012, the QCA recommended irrigation prices for Sunwater's bulk water supply and distribution schemes to apply from 1 July 2012 to 30 June 2017 which were accepted by the relevant Ministers without qualification.[51]

More recently, the Queensland government has discounted the prices paid by irrigators as follows:

- The Queensland government decided to extend the irrigation pricing policies by 2 years for 2017–18 and 2019–20.[52]
- The Treasurer of Queensland decided that for 2020–21, prices should remain at 2019–20 levels or be set at 2020–21 QCA-recommended prices, whichever was lower.[53] Whether the 2019–20 charges or the 2020–21 QCA-recommended prices were applied in 2020–21 varied across the water supply schemes. For example, Chinchilla Weir's 2020–21 charges were set at the 2020–21 QCA-recommended prices whereas Upper Condamine's charges were set at the 2019–20 prices. In the Macintyre Brook scheme the fixed charge was set at the 2019–20 level and the variable charge was set at the 2020–21 QCA-recommended charges. This was due to the 'impacts arising from drought, current broader economic conditions and the coronavirus (COVID-19) outbreak on irrigators' businesses and the ability of these businesses to withstand an increase to rural irrigation prices at this time; and…stakeholder submissions that paying for any share of

50 QCA (2020), Fact Sheet: Final report: Rural irrigation price review 2020–25, p 1, accessed 7 March 2023.

51 Notification made under section 36 of the Queensland Competition Act 1997, 30 June 2012, accessed March 2023.

52 From 2017–18 to 2019–20, the Government extended the price paths by applying an increase of 2.5% each year to all tariff groups. In addition to this increase, tariff groups below the lower bound cost target incurred increases of $2 per megalitre (in $2012–13 real terms) until revenues consistent with the lower bound cost target were reached. QCA (2017) Sunwater irrigation prices 2012–17, accessed 9 June 2023 and QCA (2020) Rural irrigation price review 2020–24 Part B: Sunwater, p 1, accessed 22 June 2023.

53 QCA (2020), Irrigation price investigation 2020–24, accessed 27 March 2023.

dam safety upgrade costs is not affordable'.[54] The Treasurer did not support an allocation of dam safety capital expenditure being recovered in irrigation prices on the basis of stakeholder submissions that paying for any share of dam safety upgrades is not affordable.[55]

- The Queensland Government made a further commitment to discount lower bound irrigation prices by 15% for all irrigators from 2021–22 to 2024–25.[56] Horticulturists (who grow crops such as nursery, floristry, mushrooms, vegetables, fruits and nuts) were eligible for a further 35% discount via a rebate scheme administered by the Queensland Rural and Industry Development Authority (QRIDA). Water used to grow broadacre crops such as grains, cotton, sugar and legumes was not eligible for the rebate. These discounts were funded from $81.6 million allocated in the 2020–21 Queensland Budget.[57]

Maranoa irrigation charges are higher than other schemes

As shown in chart 2.2, typical on-river bills for the Maranoa water supply scheme ($104,730 for 1,000 ML of water access entitlement at 100% water delivered in 2021–22) were higher than the typical bills for irrigators in any of Sunwater's other water supply schemes. These higher costs are likely due to there being only 4 irrigation customers and 805 ML of medium priority water access entitlements on issue in the Maranoa water supply scheme. In practice, Sunwater has not actually charged these customers any fixed or variable charges since 2014–15 because salinity issues have made water deliveries from Turner Weir (the main supply asset) unreliable.[58]

By contrast, the Macintyre Brook, St George and Upper Condamine have between 21,000 ML and just over 26,000 ML of water access entitlement on issue. Typical irrigator bills calculated by the ACCC for these water supply schemes ranged from $20,400 in the St George to $47,770 in the Macintyre Brook water supply systems in 2021–22. Typical irrigator bills for the Cunnamulla and Chinchilla Weir water supply schemes for 2021–22 were around $28,000 – $30,000. All these typical bills are based on 1,000 ML of water access entitlements and 100% water delivered in 2021–22.

The Queensland government decision to discount lower bound irrigation prices resulted in the on-river typical bills decreasing across the 6 water sharing schemes. The typical bill decreases ranged from 6% for North Branch – Risk A customers (located in the Upper Condamine water supply scheme) and nearly 15% for the Chinchilla Weir and Upper Condamine Sandy Creek/Condamine River.[59]

54 Extraordinary Queensland Government Gazette No. 5 for 5 May 2020, Volume 384, recommendation 10, p 28, accessed on 7 March 2023.

55 ibid, recommendation 3, p 26.

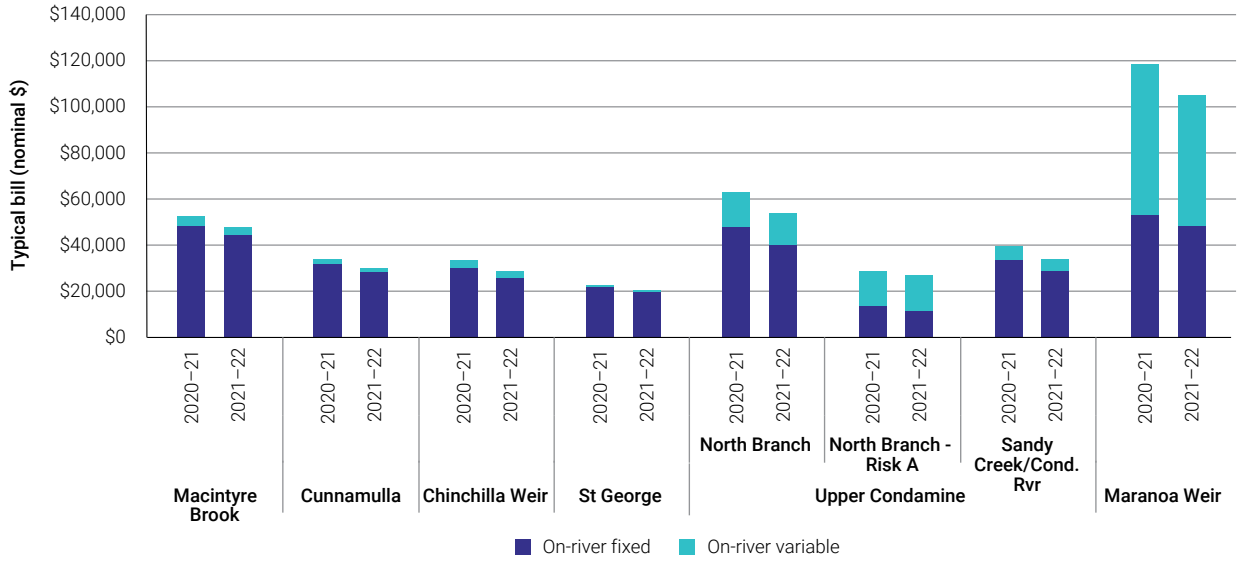
56 Department of Regional Development, Manufacturing and Water (Qld), Irrigation pricing discounts 2021–24, accessed 7 March 2023.

57 The prices that Sunwater was directly to levy are contained in the *Sunwater Rural Water Pricing Direction Notice (No. 1) 2021*, p 121. Accessed 21 March 2023.

58 Correspondence between Sunwater and ACCC, November 2020.

59 Sunwater's charges for the Upper Condamine water supply scheme are divided into 3 tariff groups. These are North Branch – medium priority; North Branch – Risk A, and Sandy Creek or Condamine River – medium priority.

Chart 2.2 Typical on-river infrastructure operator bills (nominal $) for irrigation customers, 1,000 ML water access entitlements, 100% delivered, Sunwater, by charge component



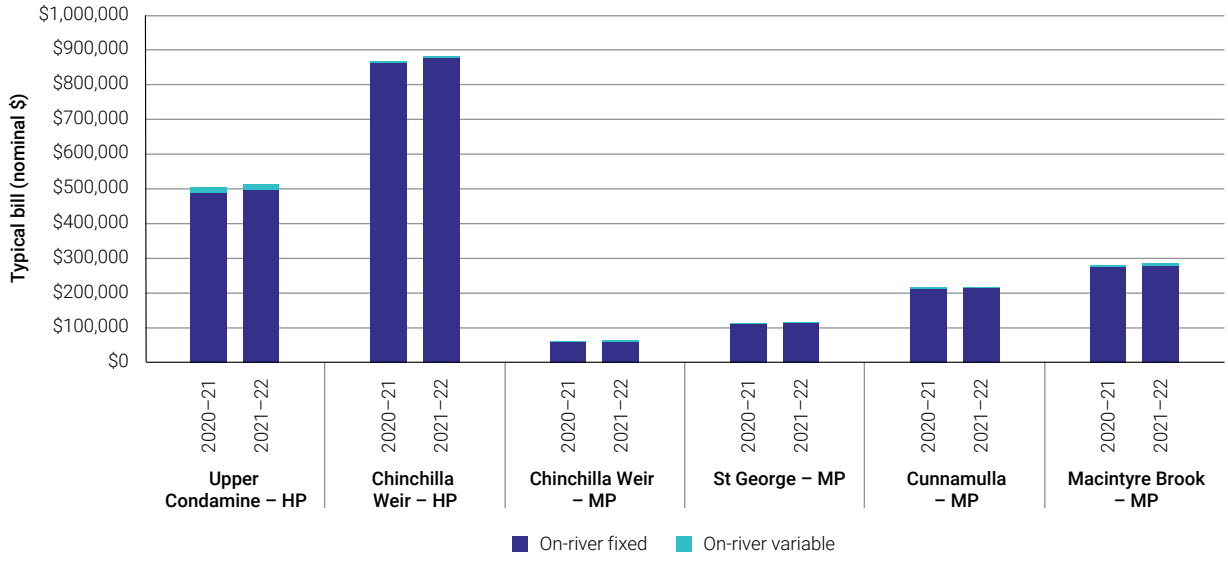
Source: ACCC from data provided by Sunwater.

Sunwater non-irrigation charges aim to achieve upper-bound pricing

Sunwater sets the charges it levies on its non-irrigation customers, such as local government authorities and industrial users. These charges aim to reflect upper bound pricing which, unlike lower bound prices, means that Sunwater earns a return on and recovers the initial investment in existing assets. [60] Typical on-river bills calculated by the ACCC for Sunwater's non irrigation customers include only a small variable component and rose by nearly 2% in 2021–22 compared to 2020–21.

60 Upper bound pricing is defined by the National Water Initiative as the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital WACC. See: Intergovernmental agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory, pp 29 and 30.

Chart 2.3 Typical on-river infrastructure operator bills (nominal $) for selected non-irrigation customers, 1,000 ML water access entitlements, 100% delivered, Sunwater, by charge component



Source: ACCC from data provided by Sunwater.
Notes: HP is High Priority, MP is Medium Priority.

Mallawa Irrigation

Mallawa's customers hold 6,701 ML in medium priority water access entitlement. This represents 8% of the total medium priority water access entitlement on issue in the St George water supply system. Mallawa delivers water to around 50 customers, who irrigate around 100 square kilometres of land.[61] Sunwater manages the bulk water supply assets in the St George water supply scheme.

Mallawa advised the ACCC that its customers also hold water harvest rights. These rights holders are entitled to take water when 8000 ML of water per day flows over the Jack Dyer weir (customers on the Thuraggi have different conditions on their harvest licences and can take water when the flow rate at the Jack Dyer weir is lower). DRDMW makes announcements allowing water harvesting.[62]

Mallawa delivered a record volume of water in 2021–22

Water access entitlement holders in the St George water supply system received a 100% announced allocation in 2020–21. Mallawa Irrigation delivered 98,241 ML of water in 2021–22, which was a 13% increase from the previous year. This is the highest volume delivered to Mallawa customers in the last ten years.

Except for harvest water, Mallawa customers have water access entitlements rather than irrigation rights.

61 Mallawa Irrigation (2023) Welcome to Mallawa Irrigation, accessed 24 May 2023.

62 In Queensland 'water harvesting' means the taking of unsupplemented water under a water access entitlement (referred to as water allocation) and the taking of overland flow water or water harvesting under a water licence. An announced flow window is the passing flow conditions stated on a water harvesting licence that allows the holder to take water a specified rate of take from a flow event in accordance with announcements made by the Chief Executive of DRDMW. Unsupplemented flow means a flow that results from tributary inflow (including dam and weir spills) that exceeds the requirements to satisfy supplemented uses. Supplemented uses include the water that is used by the resource operations licence holder for the St George Water Supply Scheme (Sunwater) to satisfy water orders, essential supplies and delivery losses or for filling of re-regulating weirs. More information is available at. MDBA (2019) Lower Balonne water management area: waterharvesting announced period guide, accessed 27 March 2023.

As shown in table 2.1, the volume of irrigation rights transformed was 84% less in 2021–22 (1,236 ML) compared to 2020–21 (7,616 ML). All the irrigation rights that have been transformed by Mallawa customers were harvest water.

Table 2.1 Water delivered, transformations, terminations and water trade, Mallawa Irrigation, 2020–21 and 2021–22 (ML)

	2020–21 (ML)	2021–22 (ML)	Change (%)
Water delivered (excluding conveyance)	86,982	98,241	13
Water delivery rights on issue	51,725	51,725	0
Irrigation rights transformed	7,616	1,236	-84
Water allocation trade			
In	7,034	240	-97
Out of	952	2,021	112
Within	5,225	1,049	-80

Source: ACCC from data provided by Mallawa Irrigation.

Typical off-river bill for Mallawa fell slightly in 2021–22 compared to 2020–21

Mallawa's charges are set by its Board to recover its operational and capital costs. Like other off-river operators, the ACCC's typical off-river bill assumes 250 ML of water entitlement with 100% delivered.

The typical bills calculated by the ACCC for Mallawa were 4% less in 2021–22 compared to 2020–21. This is because Sunwater's charges for irrigators were lower in 2021–22 compared to 2020–21 due to the Queensland government's decision to provide a 15% discount on these charges for all irrigators.

For 2021–22, the ACCC's typical bill for Mallawa includes the following fixed charges – distribution charge ($29 per ML of water access entitlement held), drainage charge ($11.13 per hectare)[63], Sunwater bulk water charge: river – medium priority Part A $19.47 per ML of water access entitlements held[64] and Sunwater local management supply charge – medium priority (also $19.47 per ML of water access entitlements held). The following variable charges are also included in the ACCC's typical bill for Mallawa – distribution consumption charge ($4.70 per ML of water delivered) and the Sunwater local management supply – medium priority Part B ($0.93 per ML of water delivered).

The Sunwater charges are for using water in the Beardmore Dam and Jack Dyer weir in the St George water supply scheme and comprise 32% of the total typical bill levied on Mallawa's customers. Although Sunwater charges have been included in the typical bills calculated by the ACCC for Mallawa, Mallawa's customers pay the Sunwater charges directly to Sunwater (except for Sunwater charges related to Mallawa's conveyance entitlement). This is why Sunwater's charges are not included in the schedule of charges published by Mallawa on its website.

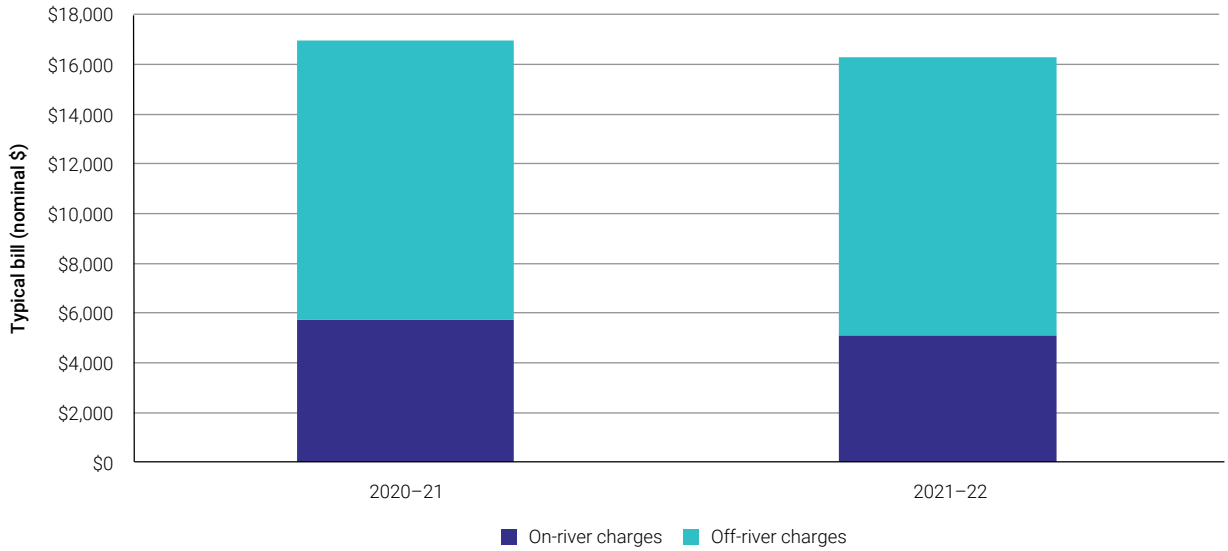
Mallawa also levies a $2 per ML fixed charge, and $2 per ML consumption charge for the delivery of harvest water (through Mallawa's infrastructure). The ACCC has not calculated a typical bill for harvest water.

63 The ACCC has assumed 0.4 hectares per ML, following consultation with Mallawa and Sunwater.

64 In 2021–22, the Sunwater bulk water charge Part A and the Sunwater bulk water charge Part B were included in Mallawa's schedule of charges but have been included in the ACCC's typical bill.

Mallawa holds 3,000 ML of high priority water access entitlements (referred to as water allocation in Queensland), which is used to cover Mallawa's conveyance losses. This represents all the high priority water access entitlements on issue in the St George Water supply scheme. Mallawa's schedule of charges states that its operational costs include bulk water charges (payable to Sunwater) in relation to Mallawa's conveyance entitlement (totalling between $210,0000 and $240,000 annually). The ACCC considers that these charges are network operations charges under rule 9A of the water charge rules and can therefore be included in Mallawa's general fees.[65]

Chart 2.4 Typical off-river infrastructure operator bills (nominal $), 250 ML water access entitlements, 100% delivered, Mallawa Irrigation, by charge component



Source: ACCC from data provided by Mallawa Irrigation and Sunwater.

65 Under rule 9A of the water charge rules, pass through charges can be combined into the operator's general charges if the charge fits within the definition of a 'network operations charges'. A network operations charges is an infrastructure charges and planning and management charges levied on an infrastructure operator (taking account of any discounts) on the basis of: (a) water access rights held or used by the operator specifically for the purpose of meeting distribution losses; or (b) infrastructure used by the operator to extract water from a watercourse or discharge water to a watercourse in the course of providing a service to the operator's customers. All other infrastructure and planning management charges are 'ancillary charges' and the operator must recover the charges from its customers by means of one or more separate charges in accordance with rule 9A.The ACCC has released guidance about how to comply with 9A of the water charge rules.

Border Rivers water supply scheme

Queensland Department of Regional Development, Manufacturing and Water

The Border Rivers water supply scheme (Border Rivers) represents the Queensland component of the Border Rivers catchment, which covers around 49,500 km^2 in southern Queensland and north-eastern NSW, with roughly an equal share in each State.[66] The system is based around the Macintyre, Dumaresq and Barwon rivers.[67]

The New South Wales-Queensland Border Rivers Intergovernmental Agreement 2008 (Border Rivers Agreement) provides direction on water sharing and access, interstate trading, and managing flows of streams shared by both states in the Border Rivers catchment. The primary decision-making functions under the Border Rivers Agreement are carried out by the Dumaresq-Barwon Border Rivers Commission (BRC). The BRC does not own water infrastructure or levy charges.

Under the *Water Act 2000 (Qld)* the State of Queensland represented by DRDMW is the holder of the Resource Operations Licence for the Border Rivers Water Supply Scheme. DRDMW is the owner of infrastructure in the scheme (wholly or, in relation to some infrastructure, jointly with NSW). DRDMW is also the Queensland 'controlling authority' under the *New South Wales-Queensland Border Rivers Act 1946 (Qld)*.

In 2021–22, the volume of water access entitlements held by customers in the Border Rivers was unchanged from 2020–21 at 2,526 ML of high priority and 81,888 ML of medium priority. Reflecting high water availability, DRDMW delivered more than 2,000% more water to private diverters in the Border Rivers in 2021–22 (4990 ML) compared to 2020–2021 (220 ML).

DRDMW charges rose by less than 2%

DRDMW charges rose by less than 2% in 2021–22 compared to 2020–21.

DRDMW levies the following charges in relation to the bulk water services it provides in the Border Rivers:

- A Part A charge – this is a fixed charge payable per megalitre (ML) of nominal water access entitlement.[68] This charge was $12 per ML (excluding GST) in 2021–22 compared to $11.80 in 2020–21.
- A Part B charge – this is a variable usage charge payable per ML of water taken during a particular water year.[69] This charge was $14.70 per ML (excluding GST) in 2021–22 compared to $14.45 in 2020–21.[70]

These charges are levied on medium priority on-river water customers of the Border Rivers, which includes irrigators.

These charges are levied under regulation 133 of the Water Regulations 2016 (Qld) and set out in schedule 14 of those regulations. DRDMW has advised the ACCC that these charges were reviewed in 2000 and that since then have been adjusted in accordance with the Consumer Price Index annually,

66 Commonwealth Environmental Water Office, Water Management Plan 2020–21 Chapter 3.1 – Border Rivers,2020–21, accessed 8 March 2023.

67 MDBA (2023) Border Rivers, accessed 24 May 2023.

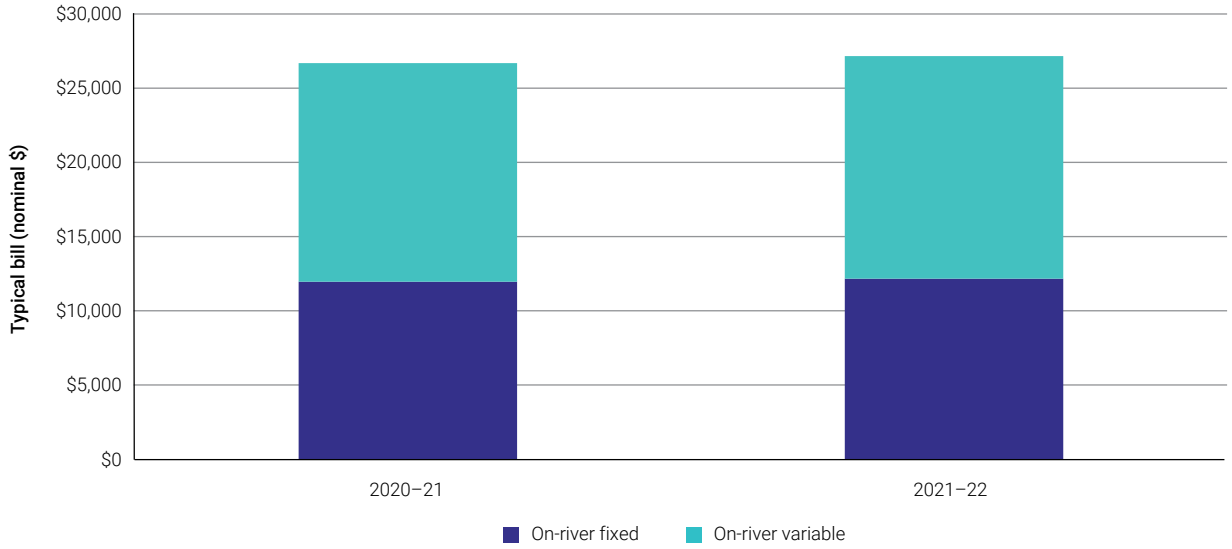
68 A nominal entitlement is the volume of water authorised to be taken during a water year under a water licence. In Queensland, a water access entitlement is referred to as a water licence.

69 Known as the 'annual entitlement' (s. 28(2) Water Regulations 2016 (Qld).

70 Queensland Government (2023) Border Rivers and Moonee water plan area, accessed 3 May 2023.

rather than changes in the actual costs of providing the infrastructure services. The ACCC calculated a typical bill for a DRDMW on-river customer with 1,000 ML of water access entitlements in the Border Rivers as shown below.

Chart 2.5 Typical on-river infrastructure operator bills (nominal $) for selected non-irrigation customers, 1,000 ML water access entitlements, 100% delivered, Qld Border Rivers water supply scheme, by charge component



Source: ACCC from data provided by DRDMW.

Water Planning and Management revenue and charges in Queensland

The Basin is only a small part of Queensland and the Queensland government, like Victoria, is unable to separate Basin-related spending from total water planning and management spending.

Regulated water planning and management charges are determined by the Queensland Government and are set out in schedules 12, 13 and 14 of the Water Regulation 2016 made under the *Water Act 2000 (Qld)*.

Water planning and management revenue collected by DRDMW increased by 75% from nearly $2.8 million in 2020–21 to just over $4.9 million in 2021–22. The main driver of the increased revenue was higher water harvesting which tripled in volume from just over 295,000 ML to nearly 795,000 ML.

3

New South Wales & the Australian Capital Territory

3. New South Wales and the Australian Capital Territory

Typical on-river bills calculated by the ACCC rose by an average 59% for general security water access entitlements (averaged across all valleys), 26 percentage points of which were due to the News South Wales Independent Pricing and Regulatory Tribunal's (IPART) 2021 review that adjusted prices to a level that reflects longer term cost recovery.[71] IPART's 2021 review stated that Water NSW's average annual cost allowance over the 2021–2025 regulatory period is $14.1 million (or 12.9%) higher than the allowance IPART used in 2017 to set WaterNSW's charges for the 2017–21 regulatory period.[72] This allowance provides for a step change in its expenditure to help sustain key performance service areas, including maintenance, drought resilience, dam safety and fishway construction.[73] Most of the increase in customer share of efficient costs is due to operating expenditure.[74]

The ending of the NSW government's drought assistance rebate contributed the remaining 33 percentage points for general security entitlements (averaged across all valleys).

The largest rise was in the Murrumbidgee regulated river system where the on-river typical bill calculated by the ACCC for 1,000 ML general security water access entitlements (100% delivered) rose by a total of 98% in 2021–22 compared to 2020–21. 75 percentage points of the 98% rise was due to the ending of the drought rebate and 23 percentage points was due to IPART's 2021 price review.

Rises in off-river typical bills for NSW operators were driven by rises in the on-river component of those bills.

WaterNSW's 2020–21 prices applied from 1 July to 30 September 2021 and 2021–22 prices applied from 1 Oct 2021 to 30 June 2022. All typical bills calculated by the ACCC for NSW were weighted to reflect that WaterNSW's 2020–21 prices applied until 30 September 2021.[75]

Transformation and termination volumes for NSW irrigation infrastructure operators were very low in 2021–22 (generally around 1% or less of the rights on issue).

This chapter covers:

- typical bills calculated by the ACCC for on-river and off-river charges levied by NSW infrastructure operators
- transformation and termination volumes for NSW infrastructure operators
- the volume of water delivered by NSW infrastructure operators in 2021–22 compared to 2020–21
- water planning and management charges and revenue in the Australian Capital Territory and NSW part of the Basin.

71 For 1,000 ML of water access entitlements with 100% of that nominal entitlement delivered.

72 IPART's 2021 price review included all rural valleys in NSW, including valleys outside the Basin (the Hunter valley and the North and South Coast NSW valleys).

73 IPART (2021) Review of WaterNSW's rural bulk water prices from 1 October 2021 to 30 June 2025: final report, accessed 9 June 2023, p 16. IPART's 2021 price review included all rural valleys in NSW, including valleys outside the Basin (the Hunter valley and the North and South Coast NSW valleys).

74 ibid, p 17.

75 The typical bills were weighted at 25% for the 2020–21 charges and 75% for the 2021–22 charges to account for the 2 sets of prices that customers paid for 2020–21 and 2021–22.

On-river bills rose due to IPART's price review and the end of drought assistance

WaterNSW is a statutory corporation owned by the NSW government. It operates the assets that harvest, store and deliver water on-river throughout NSW. It delivers 65% of all the water delivered in the Basin.

WaterNSW's charges are regulated by IPART in accordance with the water charge rules. However, on 13 April 2022, the ACCC determined that WaterNSW would cease to be a Part 6 operator under rule 23 of the water charge rules after 30 June 2025.[76] This means that IPART will continue to regulate WaterNSW's infrastructure charges after this date but will do so under NSW law (rather than the water charge rules).

On-river typical bills calculated by the ACCC for NSW include:

- WaterNSW's bulk water charges
- Water Administration and Ministerial Corporation charge (WAMC)
- WAMC (Murray Darling Basin Authority (MDBA) charge)
- WAMC (Border Rivers Commission (BRC) charge).[77]

IPART calculates a customer share and a government share for each regulated river system in NSW when setting maximum prices to share costs between rural water customers and the NSW Government (on behalf of other users and the broader community). IPART increased the customer share for the 2021–25 regulatory period to reflect increased WaterNSW expenditure intended to provide sustainable water supply in climate change affected areas. IPART also allowed WaterNSW to charge for implementation of the NSW Government's metering program which is intended to support the long-term sustainability of water resources in NSW.[78]

The ending of the NSW government's drought rebate also contributed to rises in the typical bills calculated by the ACCC. The rebate was first introduced by the NSW Government on 30 June 2018. It formed part of a financial assistance package and included rebates up to $4000 on the fixed component of bills associated with all general security and supplementary water access entitlements[79] in regional New South Wales. It also applied to customers of irrigation infrastructure operators for water access entitlement costs that were passed through to the operator's customers.[80]

In 2019–20, the NSW Government continued the rebate for general security water access entitlements and extended it to high security water access entitlements in the Macquarie, Namoi, Peel and Border valleys (in the Northern Basin). In 2020–21, the rebate was removed for high security

76 ACCC (2022), WaterNSW: Part 6 ceasing decision.

77 The MDBA and BRC WAMC pass-through charges recover the NSW Government's contribution to the MDBA and BRC to undertake activities under the Murray–Darling Basin Agreement and the agreement with the BRC. In previous WAMC determinations, the costs of funding MDBA and BRC activities were bundled with the costs of providing WAMC's water management services and recovered through water management charges. To improve transparency and equity, IPART has decided to unbundle these costs and set separate MDBA and BRC charges for WAMC. These charges will apply to all water users in NSW's parts of the Murray–Darling Basin and Border Rivers systems. IPART has set MDBA and BRC charges to recover water users' share of the full efficient MDBA and BRC costs from 1 July 2021. The BRC charge is only applied to charges for the Border Rivers regulated water source. The BRC was constituted by a 1946 agreement between the New South Wales and Queensland Governments in relation to the sharing of the rivers and streams which intersect the border and associated groundwater sources. The MDBA specific charge is only applied to the NSW Murray and Murrumbidgee regulated water sources. WaterNSW (2021), 2021–22 Water Pricing, accessed 14 April 2023.

78 IPART (2021), 'Improving the reliability of water supply in regional and rural NSW', accessed 13 April 2023.

79 Referred to as water access licences in NSW.

80 High security water access entitlement holders and government entities, such as environmental water holders, were not eligible for the rebate.

water access entitlement holders in the Macquarie valley because conditions had improved in that valley. The rebate ceased for all entitlement classes in all valleys for 2021–22.

The rebate was applied automatically to WaterNSW bills between 2018–19 and 2020–21 and reflected in typical bills calculated by the ACCC for these years. Table 3.1 shows when and in what circumstances the rebate applied.

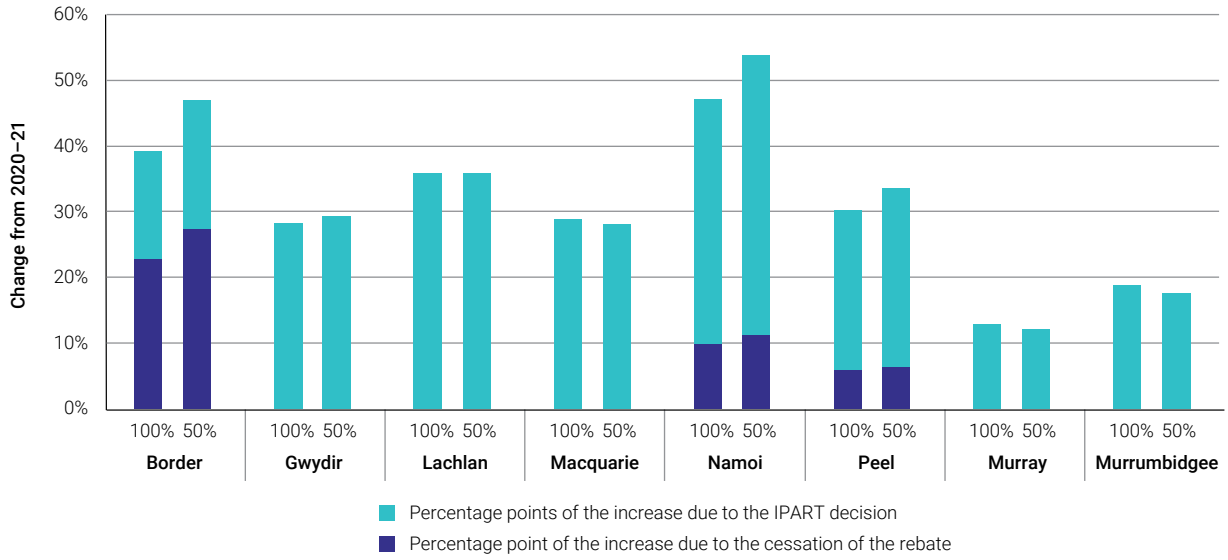
Table 3.1: NSW drought rebate 2018–19 – 2021–22

Year	Water access entitlement class	Valley	What
2018–19	General security	All	
	High security	None	Not applicable
2019–20	General security	All	Waiver of the following fixed charges up to $4,000: ▪ WaterNSW – fixed charges ▪ Water Administration and Ministerial Corporation – fixed charge ▪ Murray Darling Basin Authority Border Rivers Commission – fixed charge
	High security	Namoi, Peel, Border and Macquarie valleys	
2020–21	General security	All	
	High security	Namoi, Peel, and Border valleys	
2021–22	None	None	Not applicable

When calculating the rise in on-river typical bills for NSW in 2021–22 compared to 2020–21, the ACCC has sought to attribute the percentage increase caused by IPART's price review and the percentage increase caused by the cessation of the NSW government's drought rebate.

Chart 3.1 shows that on-river typical bills calculated for high security water access entitlement holders (1,000 ML at 100% and 50% delivered) rose between 12–13% (in the Murray) and 47–54% (in the Namoi) in 2021–22 compared to 2020–21. The ending of the drought rebate made a substantial difference to typical bills for high security water access entitlement holders in the Border Rivers (23–27%), and a smaller difference for the Namoi (10–11%) and Peel (6–7%) valleys. The rebate did not apply to high security water access entitlement holders in the Gwydir, Lachlan, Macquarie, Murray and Murrumbidgee regulated river systems in 2020–21, so the rise in typical bills in those valleys was entirely due to IPART's 2021 price review.

Chart 3.1: Percentage change in typical on-river infrastructure operator bills (nominal$), 1,000 ML high security water access entitlements, 100% and 50% delivered, NSW

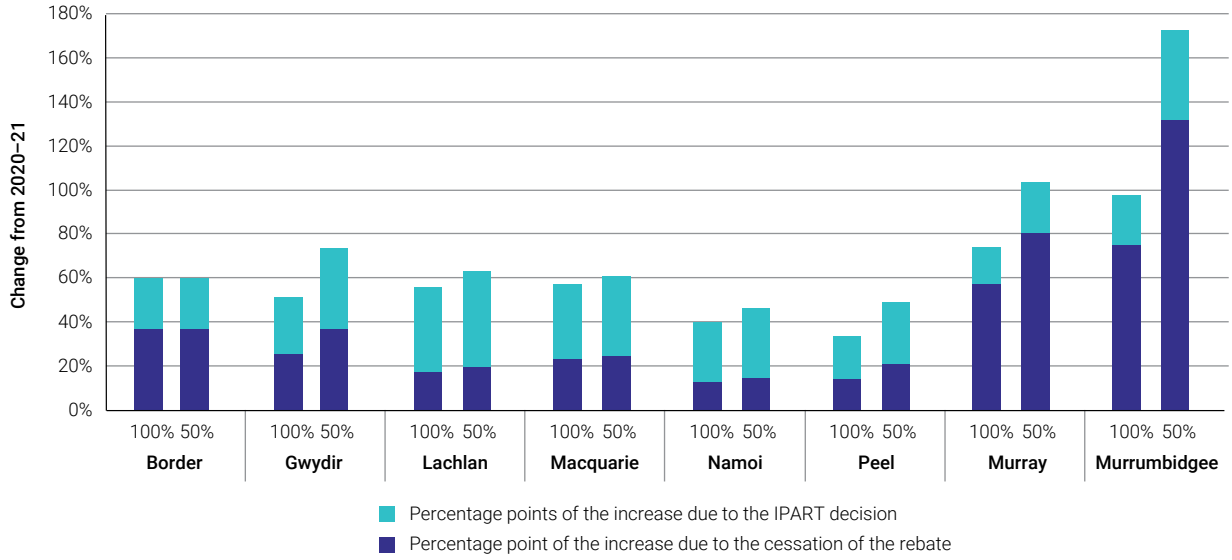


Source: ACCC from WaterNSW data.

Chart 3.2 shows that on-river typical bills for general security water access entitlement holders (1,000 ML at 100% and 50% delivered) rose by a total of between 34–49% (Peel) and 98–173% (Murrumbidgee).

The ending of the NSW government's drought rebate made a substantial difference to all the typical bills calculated by the ACCC for general security water access entitlement holders in NSW. It made the biggest difference for general security water access entitlements in the Murray and Murrumbidgee regulated river systems. For example, in the Murrumbidgee regulated river system, the typical bill for 1,000 ML of general security water access entitlements (100% delivered) rose by a total of 98%. 75 percentage points of the 98% rise was due to the cessation of the rebate and 23 percentage points was due to IPART's 2021 price review. In the Murray regulated river system, the typical bill for 1,000 ML of general security water access entitlements (100% delivered) rose by a total of 74%. 58 percentage points of the 74% rise was due to the cessation of the rebate and 16 percentage points was due to IPART's 2021 price review.

Chart 3.2: Percentage change in typical on-river infrastructure operator bills (nominal$), 1,000 ML general security water access entitlements, 100% and 50% delivered, NSW



Source: ACCC from WaterNSW data.

Border Rivers regulated river system in NSW

The Border Rivers region crosses the NSW / Queensland border and comprises Dumaresq, Severn, Macintyre and Barwon Rivers catchments. WaterNSW operates in the NSW part of the Border Rivers regulated river system and recovers its own efficient costs and costs relating to the New South Wales Government's funding of the operations of the MDBA and the BRC.[81] 2021–22 was a wet year in the Border Rivers and general security (class A) water allocations opened at 100% water allocation.[82]

WaterNSW's charges for the Border Rivers rose substantially in 2021–22

WaterNSW's charges for the Border Rivers valley increased substantially in 2021–22 compared to 2020–21. This was due to higher WaterNSW efficient costs compared to the previous regulatory period and the ending of the NSW drought rebate. IPART states that the customer share of WaterNSW's efficient operating expenditure for the Border Rivers regulated water system increased by 17.6% for the 2021–25 regulatory period mainly due to increased expenditure on metering, compliance and long-term transformational strategy.[83]

The customer share of efficient capital expenditure for the Border Rivers valley increased by 123.7%, mainly due to increased expenditure on dam safety compliance, internal corporate projects and asset management planning. Additionally, forecast usage volumes were 5.9% lower than those used in IPART's 2017 determination, which put upward pressure on prices.[84]

81 The BRC charge is only applied to charges for the Border Rivers regulated water source. The main infrastructure are the Glenlyon Dam and the Boggabilla Weir. The storage capacity of both water sources is 245,000 ML and 5,850 ML respectively.

82 Border Rivers has 2 types of general security water access entitlement: A & B. General Security, class B water access entitlements only receives an allocation once general security class A has received full allocation. General security class B had 228% on 30 March and after this was reset to 100% in the 23 May 2022 statement., accessed 2 May 2023.

83 IPART (2021), Prices for Border valley will increase from 1 October 2021, accessed 14 April 2023.

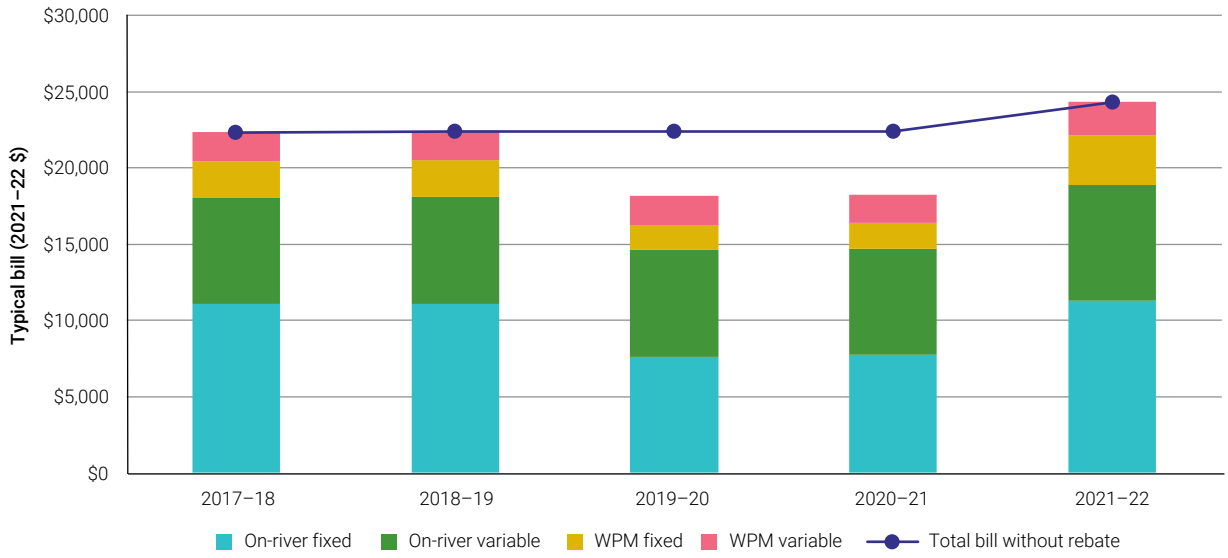
84 IPART (2021), Prices for Border valley will increase from 1 October 2021, accessed 14 April 2023.

Typical on-river bills calculated by the ACCC for the Border Rivers valley rose substantially in 2021–22 compared to 2020–21:

- **For high security water access entitlements** – as shown in chart 3.1, the on-river typical bill for 1,000 ML of high security water access entitlements in the Border Rivers rose by 39% for 1,000 ML at 100% water delivered in 2021–22 compared to 2020–21. The ending of the drought rebate contributed 23 percentage points to the rise in the typical bill, and the IPART 2021 price review 16 percentage points to this rise.
- **For general security water access entitlements** – as shown in chart 3.2, the on-river typical bill calculated by the ACCC for 1,000 ML of general security water access entitlements in the Border Rivers rose by 60% at 100% water delivered in 2021–22 compared to 2020–21. The same chart shows that the ending of the drought rebate contributed 37 percentage points to the rise in the typical bill, and the IPART 2021 price review 23 percentage points.

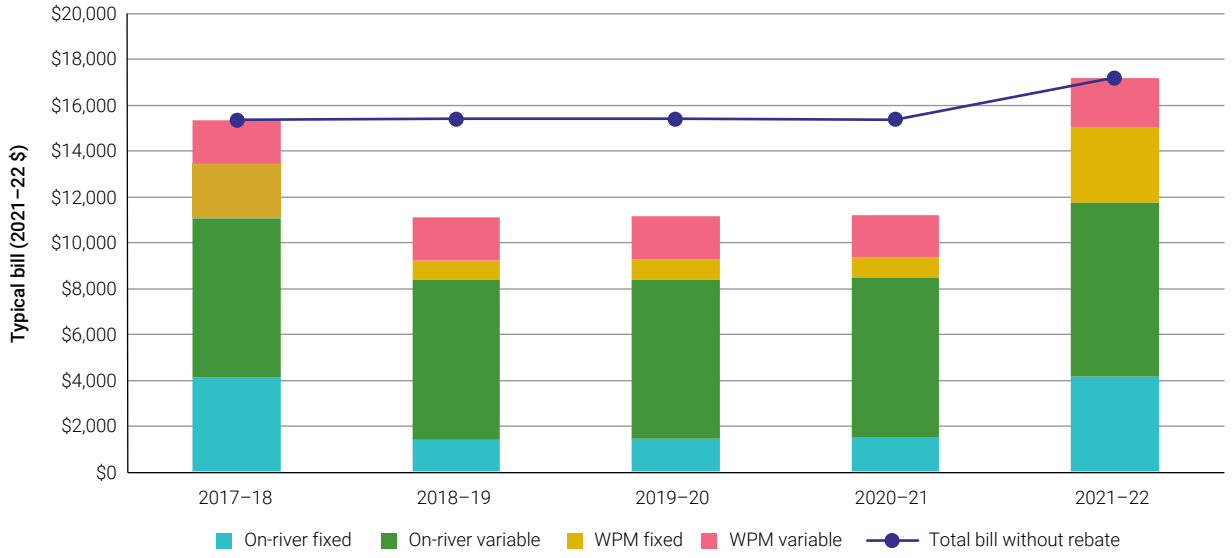
Charts 3.3 and 3.4 illustrate the impacts of IPART's price review and the drought rebate on typical bills in the NSW Border Rivers. They also show what the typical bill would have been had a rebate not been applied in the applicable years.

Chart 3.3: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML high security water access entitlements, 100% delivered, NSW Border Rivers, by charge component



Source: ACCC from WaterNSW data.

Chart 3.4: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML general security water access entitlements, 100% delivered, NSW Border Rivers, by charge component



Source: ACCC from WaterNSW data.

Lachlan regulated river system

WaterNSW's charges for the Lachlan rose substantially in 2021–22

WaterNSW's charges for the Lachlan valley increased substantially in 2021–22 compared to 2020–21 due to higher efficient costs compared to the previous regulatory period. IPART states that the customer share of WaterNSW's efficient operating expenditure for the Lachlan regulated river system increased by 46% mainly due to expenditure on asset management planning, flood operations, long-term transformational strategy and dam safety compliance.[85] The customer share of efficient capital expenditure increased by 128.8% mainly due to increased expenditure on dam safety compliance, environmental planning and protection, asset management planning and flood operations. Additionally, forecast usage volumes were 11.6% lower than those used by IPART for the previous regulatory period, which put upward pressure on prices.[86]

Typical on-river bills calculated by the ACCC for the Lachlan regulated river system rose substantially in 2021–22 compared to 2020–21:

- **For high security water access entitlements** – as shown in chart 3.1 above, the on-river typical bill for 1,000 ML of high security water access entitlements in the Lachlan regulated river system rose by 36% for 100% water delivered in 2021–22 compared to 2020–21. This increase was entirely due to IPART's 2021 price review because the drought rebate never applied to high security water access entitlements in the Lachlan regulated river system.
- **For general security water access entitlements** – as shown in chart 3.2 above, the on-river typical bill for 1,000 ML of general security water access entitlements in the Lachlan regulated river system rose by 56% for 100% water delivered in 2021–22 compared to 2020–21. The same chart shows that:

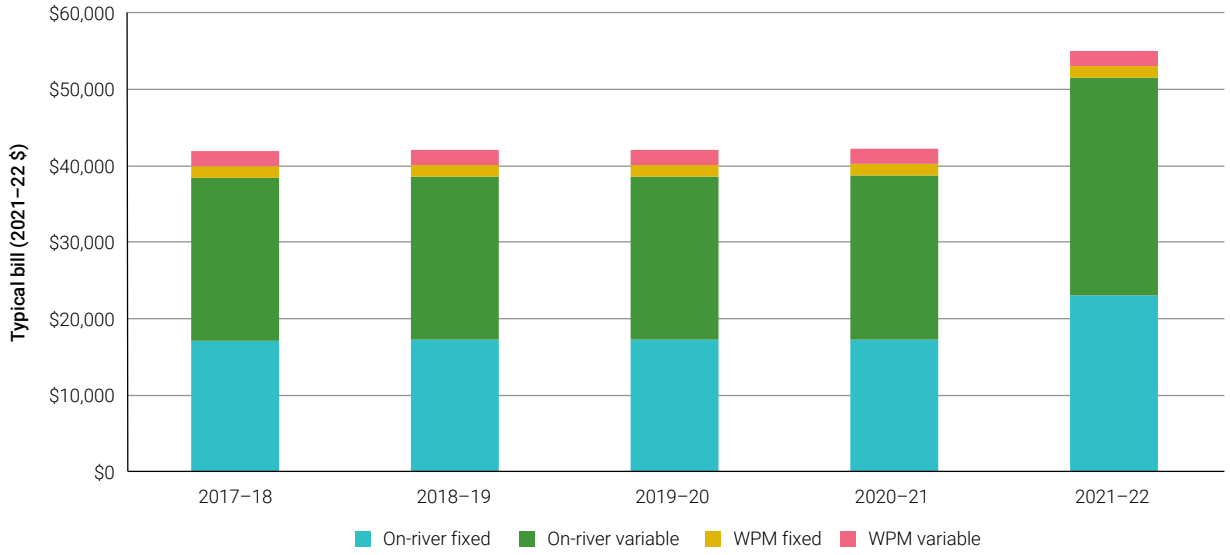
85 IPART (2021), Prices for Lachlan valley will increase from 1 October 2021, accessed 14 April 2023.

86 ibid.

- the ending of the drought rebate contributed 18 percentage points to the rise in typical bills for 100% water delivered
- the IPART 2021 price review contributed 38 percentage points to the rise in typical bills for 100% water delivered.

Chart 3.5 illustrates the impacts of IPART's 2021 price review on typical bills for high security water access entitlement holders in the Lachlan valley.

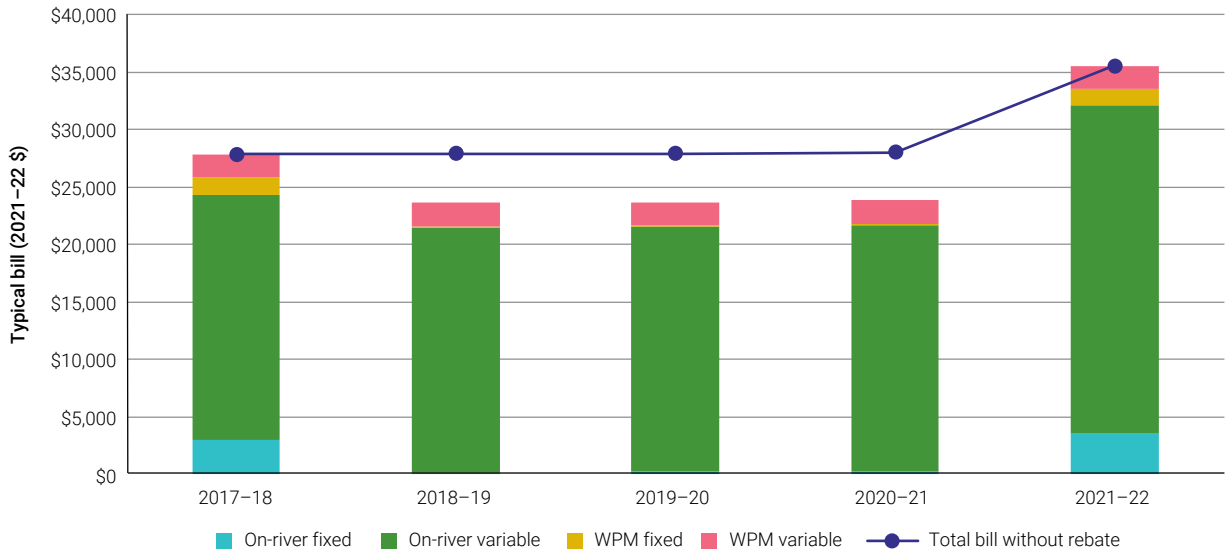
Chart 3.5: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML high security water access entitlements, 100% delivered, Lachlan regulated river system, by charge component



Source: ACCC from WaterNSW data.

Chart 3.6 illustrates the impacts of IPART's price review and the drought rebate on typical bills for general security water access entitlement holders in the Lachlan valley. It also shows what a typical bill would have been had a rebate not been applied between 2018–19 and 2020–21.

Chart 3.6: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML general security water access entitlements, 100% delivered, Lachlan regulated river system, by charge component



Source: ACCC from WaterNSW data.

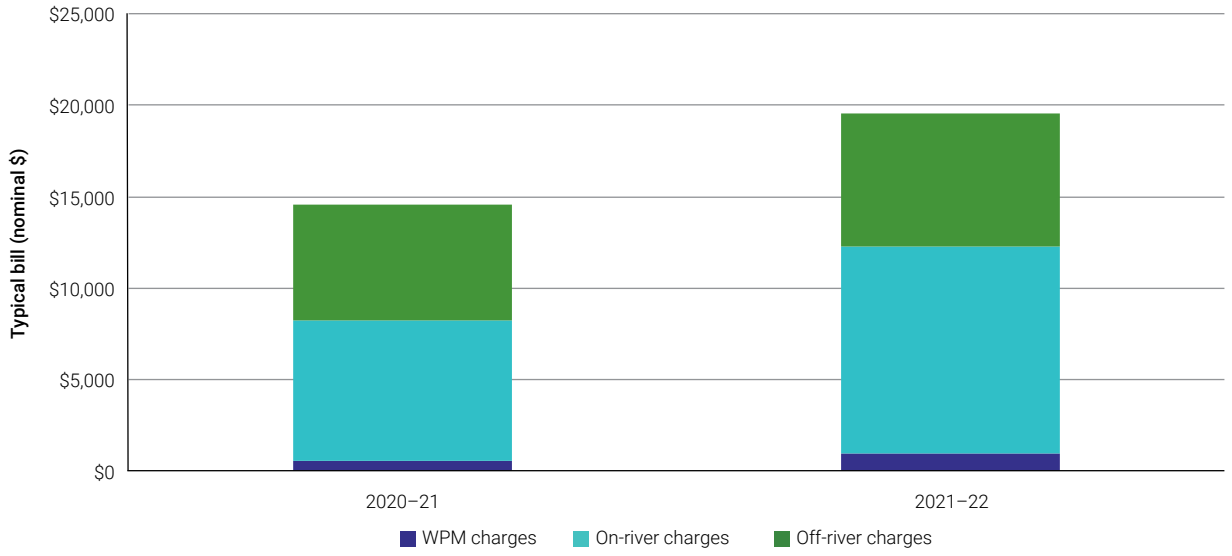
Jemalong Irrigation Limited

Jemalong Irrigation Limited (Jemalong) is the only off-river infrastructure operator in the Lachlan regulated river system that the ACCC monitors. Jemalong is a member-owned irrigation infrastructure operator which operates a gravity-fed irrigation network. Jemalong holds just over 70.5 GL of general security water access entitlement and smaller volumes of high security and stock and domestic water access entitlements.

General security typical bill for Jemalong rose by 34% in 2021–22

The typical bill calculated by the ACCC for Jemalong rose 34% (250ML general security irrigation rights, 100% water delivered). This increase reflected Jemalong's increased fixed and variable charges, higher WaterNSW charges and the ending of the drought assistance rebate for general security water access entitlement holders. The ending of the rebate and higher WaterNSW charges set by IPART meant that the on-river component of Jemalong's typical bill increased by 48% from 2020–21.

Chart 3.7: Typical off-river infrastructure operator bills (nominal $), 250 ML general security irrigation rights, 100% delivered, Jemalong Irrigation, by charge component



The ACCC's 2021–22 typical bill for Jemalong incorporated the following fixed charges:

- the entity charge ($1760 per entity listed on a Jemalong irrigation right certificate)
- a water management outlet charge ($1790 for a 450mm outlet)
- a delivery entitlement charge ($2.85 per ML of water delivery rights)
- a fixed conveyance charge ($1.13 per ML of water delivery rights), which recovers the bulk water charges associated with the conveyance licence held by Jemalong[87]
- recovery of the WaterNSW, MDBA and WAMC fixed charges (levied per ML of water delivery rights).

The variable charges included Jemalong's usage charge and charges to recover WaterNSW, MDBA and WAMC usage charges.

87 The ACCC separated the components of Jemalong's conveyance fixed charge ($0.95) using a ratio of the actual WaterNSW and WAMC fixed charges. The WaterNSW component of the fixed conveyance charge was $0.64 per ML and the WAMC component was $0.31 per ML.

Water delivered, transformations, terminations and trade in Jemalong

Table 3.2 shows that water deliveries, transformations of irrigation rights, termination of water delivery rights and trades all rose in 2021–22 compared to 2020–21. However, transformation and termination volumes remained very small compared to the volume of irrigation rights (3.2%) and water delivery rights (0.4%) on issue. Water allocation trade volumes also rose substantially, potentially due to higher water allocations. Jemalong was a net importer of water allocation.

Table 3.2: Water deliveries, transformations, terminations and trades, Jemalong in 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered (excluding conveyance)	3,490	7,198	106	
Water delivery rights				
Water delivery rights on issue	79,921	79,891	.03	
Water delivery rights terminated or surrendered	0	30		0.4
Water delivery rights traded	7,201	13,773	91	17.2
Irrigation rights				
Irrigation rights on issue	74,259	71,931	-3	
Irrigation rights traded	6,202	9,467	53	13.1
Irrigation rights transformed	1,500	2,328	55	3.2
Water Allocation trade				
Into	4,835	6,770	40	
Out of	548	2,300	319	
Within	732	7,000	856	

Macquarie regulated river system

As with much of the Basin, general security water allocations were high for the Macquarie regulated river system in 2021–22, reaching 100% on 1 December 2021, compared to a 68% closing allocation for 2020–21.

WaterNSW's charges for the Macquarie rose substantially in 2021–22

As in other valleys, WaterNSW's charges for the Macquarie valley increased substantially in 2021–22 compared to 2020–21 due to higher efficient costs compared to the previous regulatory period.

IPART stated that the key drivers of these increased costs include that the customer share of operating expenditure for the Macquarie valley increased by 53.5%, mainly due to increased expenditure on asset management planning, long term transformational strategy, flood operations and dam safety compliance.[88] The customer share of efficient capital expenditure for Macquarie valley increased by 94.3%, mainly due to increased expenditure on environmental planning and

88 IPART (2021), WaterNSW rural bulk water prices for Macquarie valley – Final report, accessed 24 May 2023.

protection, asset management planning, dam safety compliance and internal corporate projects. Forecast usage volumes were also 10.2% lower than those used for the previous regulatory period which put upward pressure on prices.[89]

Typical on-river bills calculated by the ACCC for the Macquarie regulated river system rose substantially in 2021–22 compared to 2020–21:

- **For high security water access entitlements** – as shown in chart 3.1, the on-river typical bill calculated by the ACCC for 1,000 ML of high security water access entitlements in the Macquarie regulated river system rose by 29% (for 100% water delivered) in 2021–22 compared to 2020–21. This rise was entirely due to IPART's 2021 price review because the drought rebate did not apply to high security entitlements in the Macquarie in 2020–21 (though it did in 2019–20).
- **For general security water access entitlements** – as shown in chart 3.2, the on-river typical bill calculated by the ACCC for 1,000 ML of general security water access entitlements in the Macquarie regulated river system rose by 57% (for 100% water delivered) in 2021–22 compared to 2020–21. The same chart shows that:
  - the ending of the drought rebate contributed 23 percentage points to the rise in the typical bill for 100% water delivered
  - the IPART 2021 price review contributed 34 percentage points to the rise in typical bills for 100% water delivered.

Chart 3.8 illustrates the impacts of IPART's 2021 price review and the drought rebate on typical bills for high security holders in the Macquarie regulated river system. It also shows what a typical bill would have been had a rebate not been applied in 2019–20.

Chart 3.8: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML high security water access entitlements, 100% delivered, Macquarie regulated system, by charge component

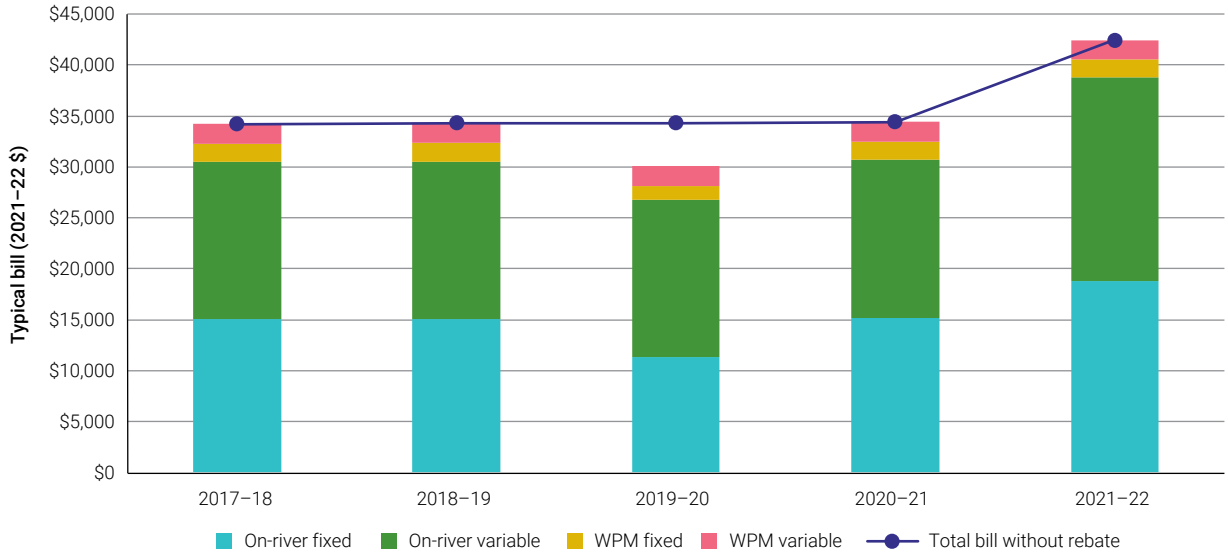
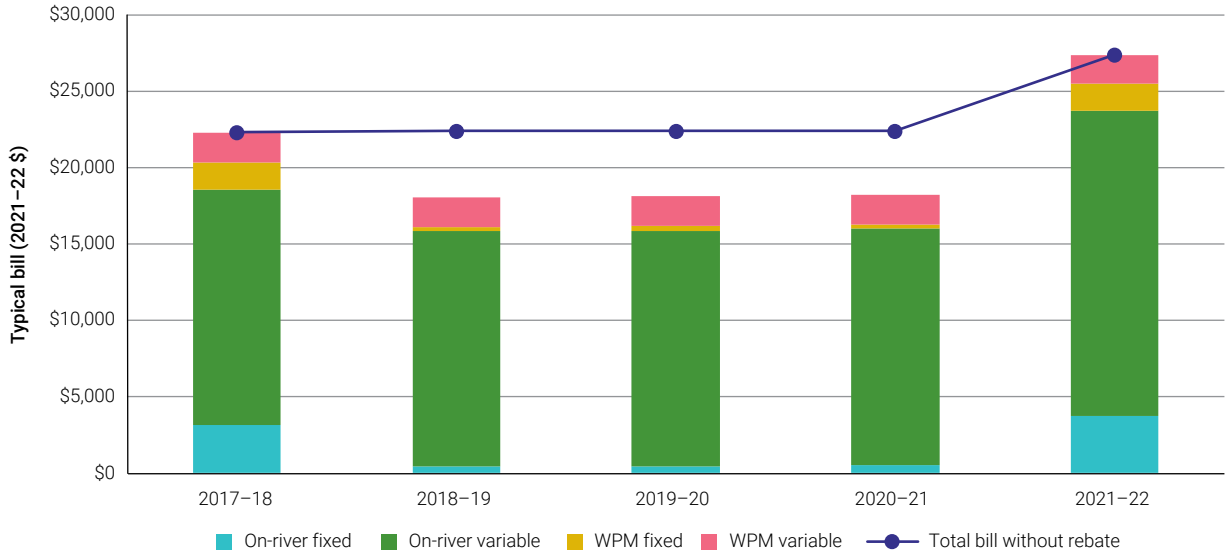


Chart 3.9 illustrates the impacts of IPART's 2021 price review and the drought rebate on typical bills for general security holders in the Macquarie regulated river system. It also shows what a typical bill would have been had a rebate not been applied between 2018–19 and 2020–21.

89 IPART (2021), WaterNSW rural bulk water prices for Macquarie valley – Final report, accessed 24 May 2023.

Chart 3.9: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML general security water access entitlements, 100% delivered, Macquarie regulated river system, by charge component



Most Macquarie irrigation infrastructure operators are small, several are joint water supply schemes

There are 5 off-river infrastructure operators within the Macquarie regulated river water source that the ACCC monitors. These are:

- Buddah Lake Irrigators Association (Buddah Lake)
- Tenandra Irrigation Scheme (Tenandra)
- Trangie-Nevertire Irrigation Scheme (Trangie-Nevertire)
- Marthaguy Irrigation Scheme (Marthaguy)
- Narromine Irrigation Board of Management (Narromine).

All of these operators meet the definition of an irrigation infrastructure operator because their water service infrastructure is operated for the primary purpose of being used for irrigation.[90]

Four of these operators (Buddah Lake, Tenandra, Trangie-Nevertire and Marthaguy) are joint water supply schemes. This means that their customers co-hold a water access entitlement rather than irrigation rights and these rights cannot be transformed under the Water Market Rules 2009.[91]

General security off-river typical bills in the Macquarie rose by between 15% and 23% in 2021–22

Most water access entitlements in the Macquarie regulated river system are general security (129.1 GL), supporting annual crops such as cotton. For this reason, the ACCC only calculates off-river typical bills for general security irrigation rights.

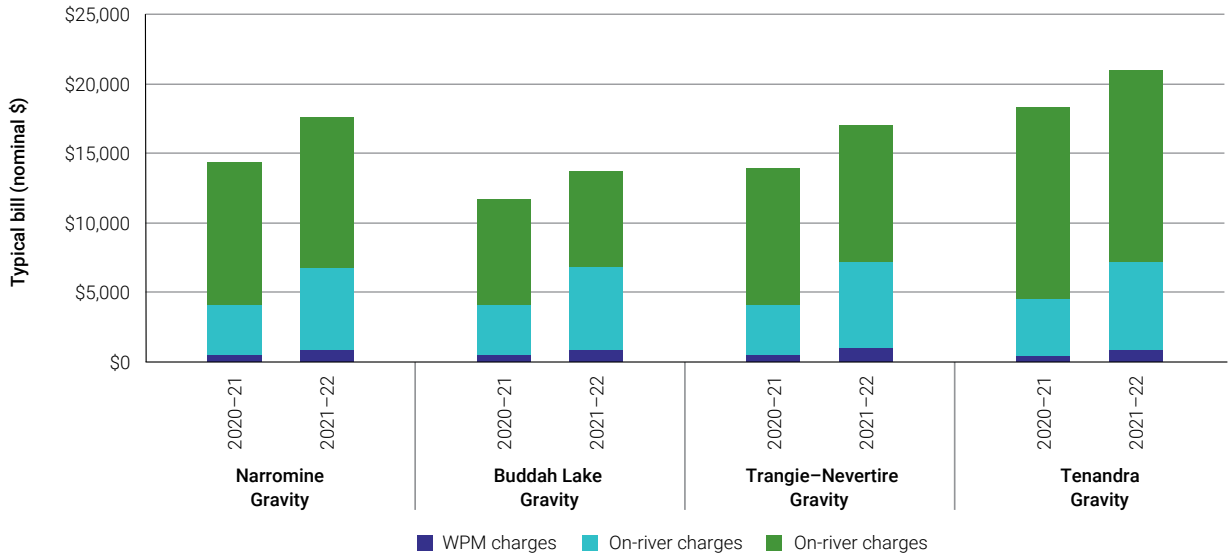
Off-river typical bills calculated by the ACCC for the Macquarie regulated river system for general security irrigation rights rose by between 15% to 23% (for 250 ML of irrigation rights at 100% water delivered) in 2021–22 compared to 2020–21. These rises were driven by increases in the on-river

90 See ss. 7(4) of the Water Act.

91 The Water Market Rules 2009 apply to irrigation rights and provide for the transformation of those rights into water access entitlements.

component of these bills due to IPART's 2021 price review and the ending of the NSW's government's drought rebate.

Chart 3.10: Typical off-river infrastructure operator bills (nominal $), 250 ML general security irrigation rights, 100% delivered, Macquarie regulated river system, by charge component



The ACCC's 2021–22 typical bills incorporated the following charges for each of the irrigation infrastructure operators:

- **Narromine:** the typical bill included the following fixed charges:
  - the Narromine access fee ($16.72 per ML of water delivery rights held)
  - administration charge ($100 levied excluding GST per account)
  - recovery of WaterNSW, MDBA and WAMC fixed charges (levied per ML of irrigation rights held).

  The typical bill also included the following variable charges:
  - pump maintenance fee ($3 per ML of water delivered)
  - recovery of WaterNSW, MDBA and WAMC usage charges (levied per ML of water delivered).
- **Buddah Lake:** the typical bill included the following fixed charges
  - the operating and maintenance fee (equating to $12 per ML). This fee includes recovery of WaterNSW, MDBA and WAMC charges, and recovery of costs incurred by Buddah Lake to run its irrigation network.[92]

92 The ACCC assumes that the weighted WaterNSW and WAMC fixed charges for the Macquarie valley would ordinarily be fully passed through to Buddah Lake customers as part of the operating and maintenance fee. The ACCC assumed that the difference between the sum of the government fixed charges ($5.73 per ML from 1 October 2021; $5.49 weighted for the ACCC's typical bill because the new WaterNSW charges did not commence until 1 October 2021) and the operating and maintenance fee ($12 per ML) was Buddah Lake's fixed off-river infrastructure charge ($6.51/ML).

The typical bill also included the following variable charges:

- Buddah Lakes water charge ($43 per ML of water delivered). This fee included recovery of WaterNSW, MDBA and WAMC usage charges.[93]

- **Trangie-Nevertire:** the typical bill includes the following fixed charges:
  - operating and maintenance charge ($15.97 per ML of water delivery rights held)
  - recovery of WaterNSW, MDBA and WAMC fixed charges (levied per ML of water access entitlements held).

  The typical bill also includes the following variable charges:
  - Trangie-Nevertire's pumping charge ($23.26 per ML of water delivered 'at farm gate')
  - recovery of WaterNSW, MDBA and WAMC usage charges (levied per ML of water delivered at the farm gate). Trangie-Nevertire does not have a conveyance water access entitlement and adds 7% to its usage charges (including WaterNSW, MDBA and WAMC charges) to account for losses. This is included in the ACCC's typical bill for Trangie-Nevertire.

- **Tenandra:** Tenandra's typical bill includes the following fixed charges:
  - infrastructure access fee – bottom scheme ($255.32 per ML of scheme delivery capacity) outlet fee ($500 per outlet)
  - NSW Irrigators Council Pass Through charge ($0.09 per ML of water access entitlements)
  - Macquarie River food fibre pass through charge ($0.50 per ML of water access entitlements)
  - recovery of WaterNSW, MDBA and WAMC fixed charges (levied per ML of water access entitlements).

  The typical bill also includes the following variable charges:
  - delivery fee for the bottom scheme ($40 per ML of water delivered)
  - recovery of WaterNSW, MDBA and WAMC charges, including Tenandra's conveyance licence charges.

Water delivered, transformations, terminations and trade for irrigation infrastructure operators in the Macquarie

Irrigation infrastructure operators (or their customers) in the Macquarie hold relatively small volumes of water access entitlements compared to other infrastructure operators in the Basin.

Table 3.3 show that Narromine delivered 203% more water in 2021–22 compared to 2020–21, likely reflecting wet conditions and the annual crops grown around Narromine (especially cotton). Narromine reported no terminations or transformations in 2021–22, and the volume of irrigation rights and water delivery rights traded was a small proportion of the rights on issue.

93 The ACCC assumed the WaterNSW and both WAMC charges (WAMC and WAMC MDBA usage charges) were fully passed through to Buddah Lake's customers. These charges were deducted from Buddah Lake's variable water charge of $43 per ML of water delivered, which was assumed to be $21.14 per ML for the typical bill. WaterNSW's usage charges for 2021–22 (from 1 October 2021) are $23.59 per ML, but the ACCC weighed all inputs into its typical bills to reflect that the new charges didn't begin until 1 October 2021.

Table 3.3: Water deliveries, transformations, terminations and trades, Narromine 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered (excluding conveyance)	5,956	18,082	203	
Water delivery rights				
Water delivery rights on issue	35,774	35,774	0	
Water delivery rights terminated or surrendered	0	0	0	0
Water delivery rights traded	8,484	1,439	-83	4
Irrigation rights				
Irrigation rights on issue	35,574	35,574	0	
Irrigation rights traded	7,973	1,353	-83	3.8
Irrigation rights transformed	200	0		0
Water allocation trade				
Into	864	5,066	486	
Out of	0	0		
Within	68	1,140	1576	

Table 3.4 shows that Buddah Lake delivered 61% more water in 2021–22 compared to the previous year. No water delivery rights were traded or terminated in Buddah Lake in either 2021–22 or 2020–21. There was also no water allocation trade in Buddah Lake in 2021-22 (and only 100 ML traded out the year before).

Table 3.4: Water delivered and water delivery rights on issue, Buddah Lakes 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)
Water delivered (excluding conveyance)	5,243	8,459	61
Water delivery rights on issue	32,445	32,445	0

Table 3.5 shows that Trangie-Nevertire delivered 212% more water in 2021–22 compared to 2020–21. No water delivery rights were traded in 2021–22, and no water delivery rights were terminated in either 2020–21 or 2021–22.

Table 3.5: Water deliveries, water delivery rights and water allocation trades, Trangie-Nevertire 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)
Water delivered (excluding conveyance)	10,628	33,187	212
Water delivery rights			
Water delivery rights on issue	37,780	37,780	0
Water delivery rights traded	446.5	0	
Water allocation trade			
Into	4,452	7,973	79
Out of	0	512	
Within	6,027	0	

Table 3.6 shows that Tenandra delivered 10% less water in 2021–22 compared to 2020–21, perhaps due to high rainfall in the area leading to sodden fields. No water delivery rights were traded or terminated in Tenandra in either 2021–22 or 2020–21. Tenandra also reported no water allocation trade in/out or within its network in either year.

Table 3.6: Water delivered, water delivery rights on issue, Tenandra 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)
Water delivered (excluding conveyance)	5,717	5,170	-10
Water delivery rights on issue	12,326	12,326	0

Murrumbidgee regulated river system

Like much of the Basin, water allocations in the Murrumbidgee valley were high in 2021–22. For general security water access entitlements, the opening allocation for 2021–22 was higher at 30% (compared to 10% the previous year) and reached 100% 2 months earlier than in 2020–21 (November 2021).

WaterNSW's charges for the Murrumbidgee rose substantially in 2021–22

As in other valleys, WaterNSW's charges in the Murrumbidgee valley increased substantially in 2021–22 compared to 2020–21 due to higher efficient costs compared to the previous regulatory period. IPART states that a key driver of these increased costs was that the customer share of operating expenditure for Murrumbidgee valley increased by 30.9%, mainly due to increased expenditure on asset management planning, long term transformational strategy, flood operations and dam safety compliance.[94] Forecast usage volumes were also 11.8% lower than those used for the previous regulatory period, which put upward pressure on prices.[95]

On-river typical bills calculated by the ACCC for the Murrumbidgee regulated river system were substantially higher for both high and general security water access entitlements.

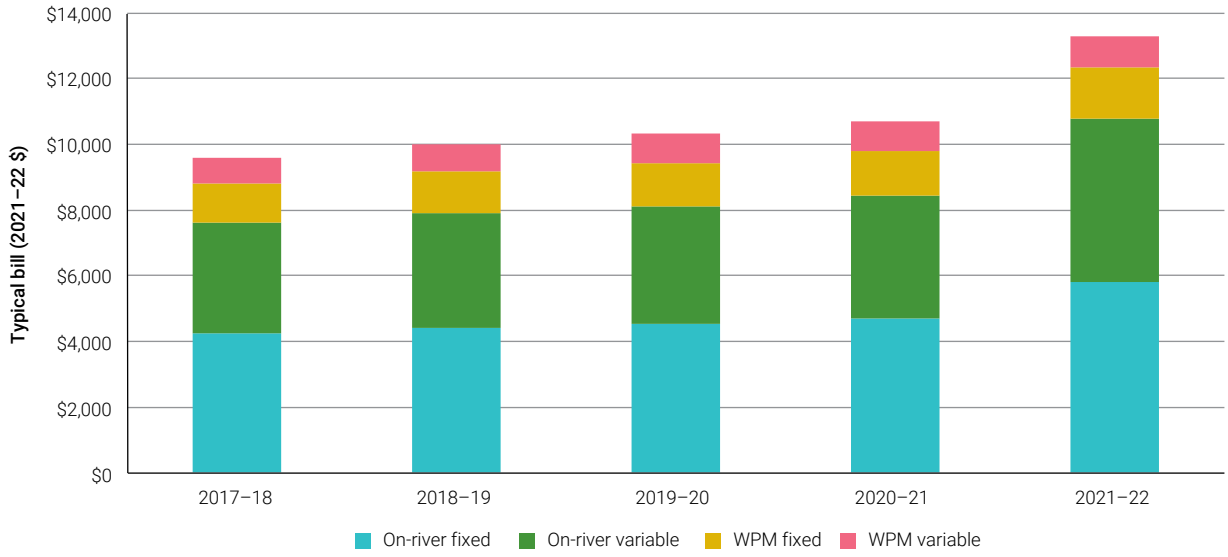
94 IPART (2021), WaterNSW rural bulk prices for Murrumbidgee valley – final report, accessed April 2023.

95 ibid.

- **For high security water access entitlements** – as shown in chart 3.1 above, the on-river typical bill for 1,000 ML of high security water entitlements in the Murrumbidgee regulated river system rose by 19% for 1,000 ML of water access entitlements for 100% water delivered in 2021–22 compared to 2020–21. This rise was entirely due to IPART's 2021 price review because a drought rebate never applied to high security water access entitlements in the Murrumbidgee.
- **For general security water access entitlements** – as shown in chart 3.2 above, the on-river typical bill for 1,000 ML of general security water access entitlements in the Murrumbidgee regulated river system rose by 98% for 100% water delivered in 2021–22 compared to 2020–21. The same chart shows that:
  - the ending of the drought rebate contributed 75 percentage points to the rise in typical bills for 100% water delivered
  - the IPART 2021 price review contributed 23 percentage points to the rise in typical bills for 100% water delivered.

Chart 3.11 shows the impact of IPART's price review on typical bills for 2021–22 for high security water access entitlements in the Murrumbidgee regulated river system.

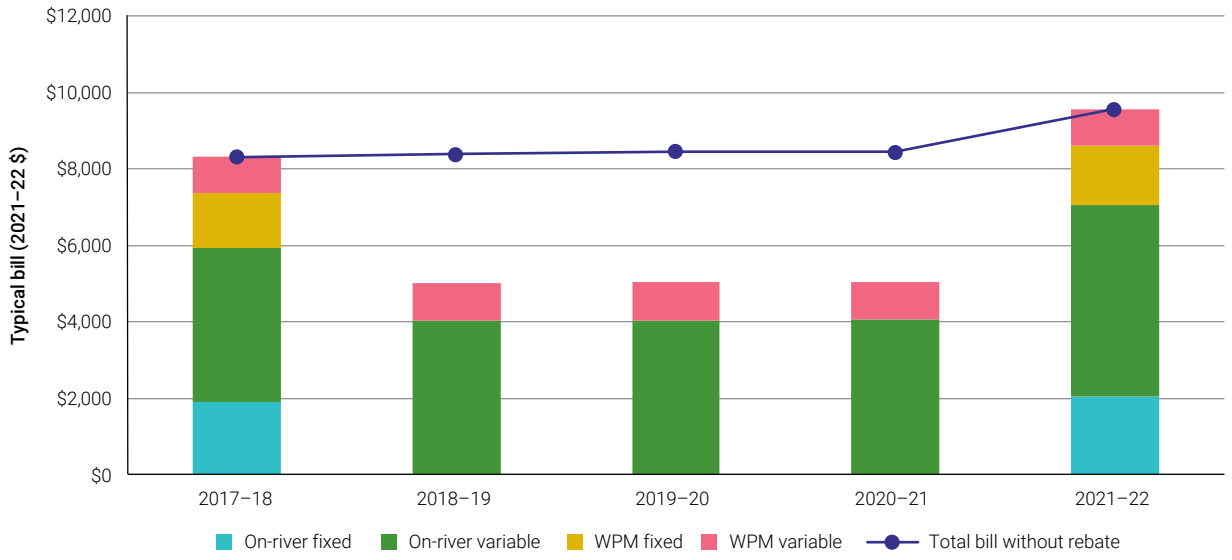
Chart 3.11: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML high security water access entitlements, 100% delivered, Murrumbidgee regulated river system, by charge component



Source: ACCC from WaterNSW data.

Chart 3.12 illustrates the impacts of IPART's price review and the ending of the drought rebate on typical bills for general security water access entitlement holders in the Murrumbidgee regulated river system. It also shows what a typical bill would have been had a rebate not been applied between 2018–19 and 2020–21.

Chart 3.12: Typical on-river infrastructure operator bills, (2021–22 $), 1,000 ML general security water access entitlements, 100% delivered, Murrumbidgee regulated river system, by charge component



Source: ACCC from WaterNSW data.

Two of the three largest NSW irrigation infrastructure operators are in the Murrumbidgee regulated river system

Coleambally Irrigation Cooperative Limited (Coleambally), Hay Private Irrigation District (Hay) and Murrumbidgee Irrigation Limited (Murrumbidgee Irrigation) are the off-river infrastructure operators in the Murrumbidgee valley. All 3 are irrigation infrastructure operators because they operate water service infrastructure for the primary purpose of being used for irrigation.[96] Murrumbidgee Irrigation and Coleambally are the second and third largest irrigation infrastructure operators in New South Wales.

Murrumbidgee Irrigation and Coleambally hold significant volumes of water access entitlement in the Murrumbidgee regulated water source, around 50% of the total volume held in general security water access entitlements and around 80% of the total volume held in high security water access entitlements (excluding, town water supply, research and Aboriginal cultural high security).[97]

Most off-river typical bills in the Murrumbidgee valley rose due to increases in WaterNSW's charges and the end of the drought rebate

Chart 3.13 shows that most of the off-river typical bills calculated for the irrigation infrastructure operators (for 250 ML of irrigation rights at 100% water delivered) in the Murrumbidgee regulated river system rose in 2021–22 compared to the previous year.

General security off-river typical bills for Murrumbidgee Irrigation and Coleambally (for 250 ML of irrigation rights at 100% water delivered) increased by 15% and 19% respectively in 2021–22 compared to 2020–21. Hay's typical bill (for 250 ML of irrigation rights at 100% water delivered)

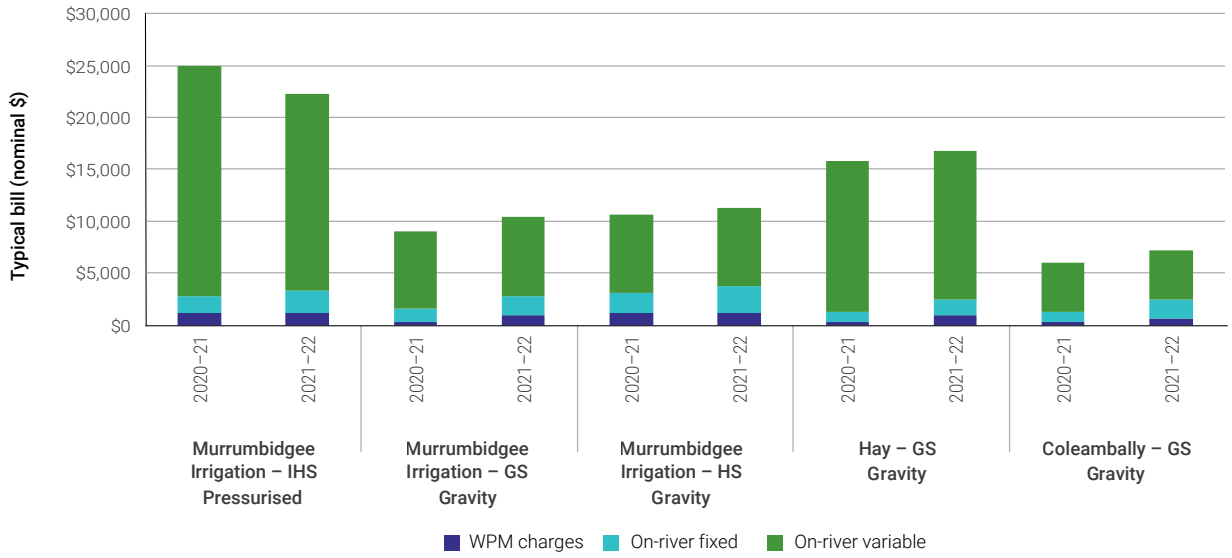
96 See s 7(4) of the Water Act.

97 Based on data reported to the ACCC and sourced from the New South Wales Water register, accessed 11 October 2022.

increased by 6% in 2021–22 compared to 2020–21. As in other valleys, the main drivers of the increased bills were the increased on-river charges set by IPART and the ending of the NSW drought rebate.

The only off-river typical bill to fall in 2021–22 compared to 2020–21 was for high security irrigation rights holders in Murrumbidgee Irrigation's pressurised integrated horticulture supply (IHS) network. This decreased by 11% for a 250 ML of irrigation rights at 100% water delivered because of lower electricity prices.[98]

Chart 3.13: Typical off-river infrastructure operator bills (nominal $), 250 ML general security irrigation rights, 100% delivered, Murrumbidgee regulated river system, by charge component



The ACCC's 2021–22 typical bills incorporated the following charges:

- **Coleambally:** Coleambally typical bill includes the following fixed charges:
  - class B general security access fee ($10.21 per ML of water delivery rights)
  - compliance levy ($1.06 per ML of water delivery rights)
  - sinking fund levy ($3 per ML of water delivery rights)
  - large outlet charge ($853.64 per outlet per annum)
  - peak flow charge – large flume ($57.30 per ML of nominated peak flow for each large outlet)
  - recovery of WaterNSW bulk water charges and WAMC charges (levied per ML of irrigation rights).[99]

98 Typical bills for pressurised networks are higher than for gravity fed networks due to the electricity costs of operating a pressurised system. In 2021–22, the lower typical bill for Murrumbidgee Irrigation's IHS network fell because energy usage in kilowatt hours (kWh) was 23% lower (for a 250 ML irrigation rights at 100% water delivered) for July to December 2021 and January to June 2022 compared to the corresponding periods in 2020 and 2021 respectively. Electricity costs to operate the pump stations is based on pump station location, amount of electricity used and the time of day. There are peak electricity usage charges and off-peak electricity usage charges with peak usage from 7 am to 10 pm which is in line with the peak electricity demand period in the National Electricity Market. Off peak is from 10:01pm to 6:59 am the following day.

99 The peak flow charge is levied based on the maximum flow rate. For a large common irrigation outlet, the flow ranges from 12 ML to 30 ML per day. The irrigator nominates their maximum flow within this range. Coleambally has advised the ACCC that irrigators typically nominate a peak flow of 15 ML and that most irrigators hold irrigation right of at least 1,000 ML. The 2021–22 typical bills assume that where the irrigator has 250 ML of irrigation rights, the irrigator has a maximum peak flow of 6 ML per day.

Coleambally's typical bill includes the following variable charges:

- recovery of WaterNSW bulk water charges and WAMC charges (levied per ML of water delivered).

- **Murrumbidgee Irrigation:** Murrumbidgee Irrigation's typical bill includes the following fixed charges:
  - customer account ($320 per account)
  - delivery entitlement charge ($9.57 per water delivery rights)
  - recovery of fixed WaterNSW bulk charges and WAMC charges (levied per ML of irrigation rights held)
  - an access charge – this is $1,877 for a small (0–6 ML per day) meter for the Integrated Horticultural Supply (IHS) and $2,042 for a medium (2–15 ML per day) gravity fed network (both general and high security).

  Murrumbidgee Irrigation's typical bill includes the following variable charges:
  - $11.30 levied per ML of water delivered
  - the recovery of WaterNSW bulk water charges and WAMC charges (levied per ML of water delivered)
  - for the IHS typical bill (high security) only, energy charges (levied per ML of water delivered).[100]

- **Hay:** Hay's typical bill includes the following fixed charges:
  - administration charge (large holding) – $700 (levied per property)
  - one 12 ML outlet ($1,200 per outlet)
  - delivery charge $35.89 per ML of water delivery rights
  - recovery of fixed WaterNSW bulk charges and WAMC charges.

  Hay's typical bill includes the following variable charges:
  - delivery charge of $14.05 per ML of water delivered
  - recovery of fixed WaterNSW bulk charges and WAMC charges.

Water delivered, transformations and terminations and trade for irrigation infrastructure operators in the Murrumbidgee

Murrumbidgee Irrigation

Table 3.7 shows that water deliveries by Murrumbidgee Irrigation fell by 14% in 2021–22 but water delivery rights on issue rose by 2% compared to the previous year. There was also a substantial

100 Murrumbidgee Irrigation's Integrated Horticultural Supply (IHS) customers are required to pay 75% of the electricity charges that MI is charged. The remaining 25% is shared among remaining Murrumbidgee Irrigation customers. Electricity usage charges depend on several factors, including the level of water pressure and the time-period of electricity use (peak/off peak periods). The electricity charge calculated for 2021–22 typical bill analysis is a weighted average of peak, shoulder, and off-peak times across all IHS pump stations.

increase in the volume of water delivery rights surrendered[101], traded and issued. Transformation volumes in Murrumbidgee Irrigation rose almost 300% from 3,271 ML to 14,366 ML, though 75% of this volume was transformed by only 3 customers. Water allocation trade volumes show that Murrumbidgee Irrigation customers were net exporters of water in 2021–22 and 2020–21.

Table 3.7 Water deliveries, transformations, terminations and trades, Murrumbidgee Irrigation, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered (excluding conveyance)	748,988	647,658	-14	
Water delivery rights				
Water delivery rights on issue[102]	1,294,541	1,319,369	2	
Water delivery rights terminated or surrendered	2,847	4,702	65	0.04
Water delivery rights traded	7,667	12,821	67	0.97
New water delivery right issued	61,351	29,530	52	2.12
Irrigation rights				
Irrigation right son issue	882,880	872,620	-1	
Irrigation rights traded	59,095	22,560	-62	2.59
Irrigation rights transformed	3,721	14,366	286	1.6
Water allocation trade				
Allocation trade into	128,631	141,230	10	
Allocation trade out of	238,658	247,203	4	
Allocation trade within	438,108	339,930	-22	

Coleambally

Table 3.8 shows that Coleambally delivered 3% less water in 2021–22 compared to 2020–21, no water delivery rights were terminated in 2021–22, and that the volume of water delivery rights on issue was the same in both 2021–22 and 2020–21. The volume of irrigation rights transformed and traded in Coleambally was down compared to the 2020–21 and was a small percentage of the volume of rights on issue. Water allocation trade volumes show that Coleambally customers were net exporters of water in 2021–22 and 2020–21.

101 Murrumbidgee Irrigation reported that 0 ML of water delivery rights was terminated in 2021–22 but that 4,702 ML was cancelled or surrendered. Section 91(1)(a) of the Water Act states that charges for (iii) terminating access to the operator's irrigation network (or services provided in relation to that access) and iv) surrendering to the operator a right to the delivery of water through the operator's network are both included in the definition of 'regulated water charges' and are covered by the Water Charge Rules. Part 10 of the Water Charge Rules 2010 applies to any levy, charge or payment of any kind for or in respect of the termination or surrender of the whole or a part of a right of access.

102 In Murrumbidgee Irrigation, casual usage charges apply to water deliveries in excess of the customer's water delivery rights or where the customers does not hold any water delivery rights.

Table 3.8 Water deliveries, transformations, terminations and trades, Coleambally, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	258,881	249,873	-3	
Water delivery rights				
Water delivery rights on issue	485,495	485,495	0	
Water delivery rights terminated or surrendered	0	0		0
Water delivery right traded	14,808	3,748	-75	0.77
Irrigation rights				
Irrigation rights on issue	353,469	357,449	1	
Irrigation rights traded	18,946	11,373	40	2.3
Irrigation rights transformed	5,343	2,145	-60	0.04
Water allocation trade				
Into	40,648	56,897	40	
Out of	179,512	112,625	-37	
Within	112,339	47,442	-58	

Hay

Table 3.9 shows that Hay delivered slightly less water in 2021–22 compared to 2020–21. The volume of water delivery rights and irrigation rights on issue remained the same and Hay reported no terminations or transformations in 2021–22.

Table 3.9: Water delivered, transformations and terminations, Hay, 2020–21 to 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)
Water delivered to customers (excluding conveyance)	1,954	1,908	-3
Water delivery rights			
Water delivery rights on issue	3,381	3,381	0
Water delivery rights terminated or surrendered	60	0	
Irrigation rights			
Irrigation rights on issue	3,381	3,381	0
Irrigation rights transformed	60	0	

New South Wales Murray regulated river system

Like the rest of the Murray–Darling Basin the New South Wales Murray enjoyed higher water availability and general security water access entitlement holders received full allocation (110%) for 2021–22.[103] General security entitlement holders received full allocation in the Department of Planning and Environment's 15 October 2021 allocation statement.

WaterNSW's charges for the Murray rose substantially in 2021–22

As in other valleys, WaterNSW's charges in the NSW Murray regulated river system increased substantially in 2021–22 compared to 2020–21 due to higher efficient costs compared to the previous regulatory period.

IPART states that the key drivers of these increased costs include that the customer share of operating expenditure for Murray valley has increased by 36.4%, mainly due to increased expenditure on asset management planning, long term transformational strategy and dam safety compliance.[104] Customer share of capital expenditure for Murray valley has increased by 169%, mainly due to increased expenditure on dam safety compliance, asset management planning and internal corporate projects. Additionally, forecast usage volumes are also 11.4% lower than those used for IPART's 2017 price review, which put upward pressure on prices.[105]

Typical on-river bills calculated by the ACCC for the Murray regulated river system rose substantially in 2021–22 compared to 2020–21:

- **For high security water access entitlements** – as shown in chart 3.1 above, the on-river typical bill calculated by the ACCC for 1,000 ML of high security water access entitlements holder in the Murray regulated river system rose by 13% for 100% water delivered in 2021–22 compared to 2020–21. This rise was entirely due to IPART's 2021 price review because the drought rebate did not apply to high security entitlements in the Murray.
- **For general security water access entitlements** – as shown in chart 3.2 above, the on-river typical bill calculated by the ACCC for 1,000 ML of general security water access entitlements in the Murray regulated river system rose by 74% for 100% water delivered in 2021–22 compared to 2020–21. The same chart shows that:
  - the ending of the drought rebate contributed 58 percentage points to the rise in the typical bills for 100% water delivered
  - the IPART 2021 price review contributed 16 percentage points to the rise in typical bills for 100% water delivered.

Chart 3.14 illustrates the impact of IPART's 2021 price review on high security typical bills calculated by the ACCC compared to previous years.

103 Under the water sharing plan for the NSW Murray and Lower Darling regulation rivers water sources 2016, general security water access entitlements can get up to 110% water allocation.

104 IPART (2021), WaterNSW rural bulk water prices for Murray valley – final report, accessed 24 May 2023.

105 ibid.

Chart 3.14: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML high security water access entitlements, 100% delivered, NSW Murray regulated system, by charge component

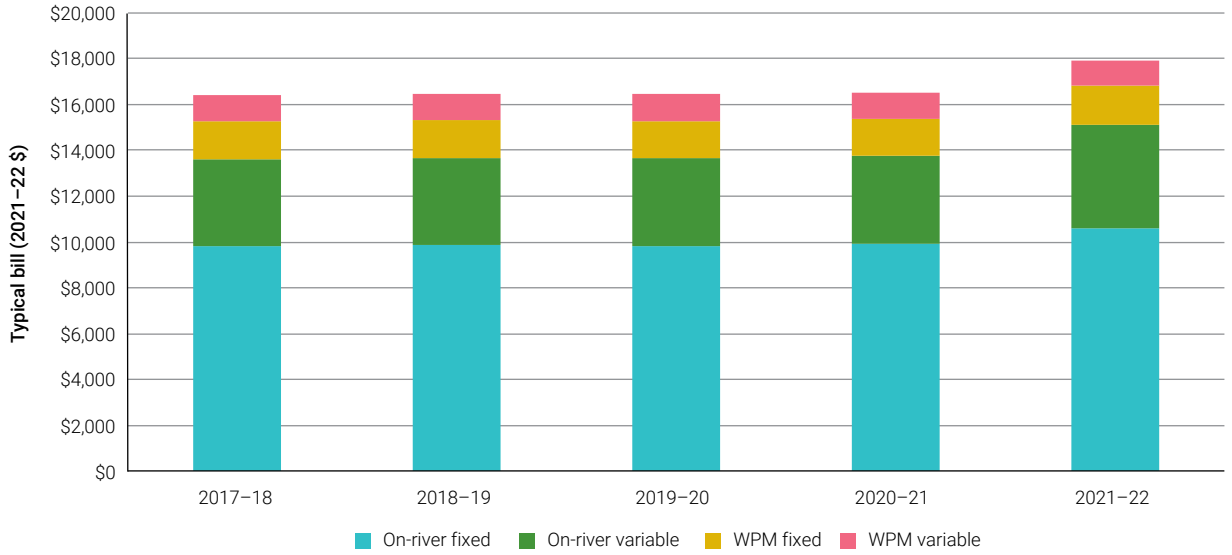
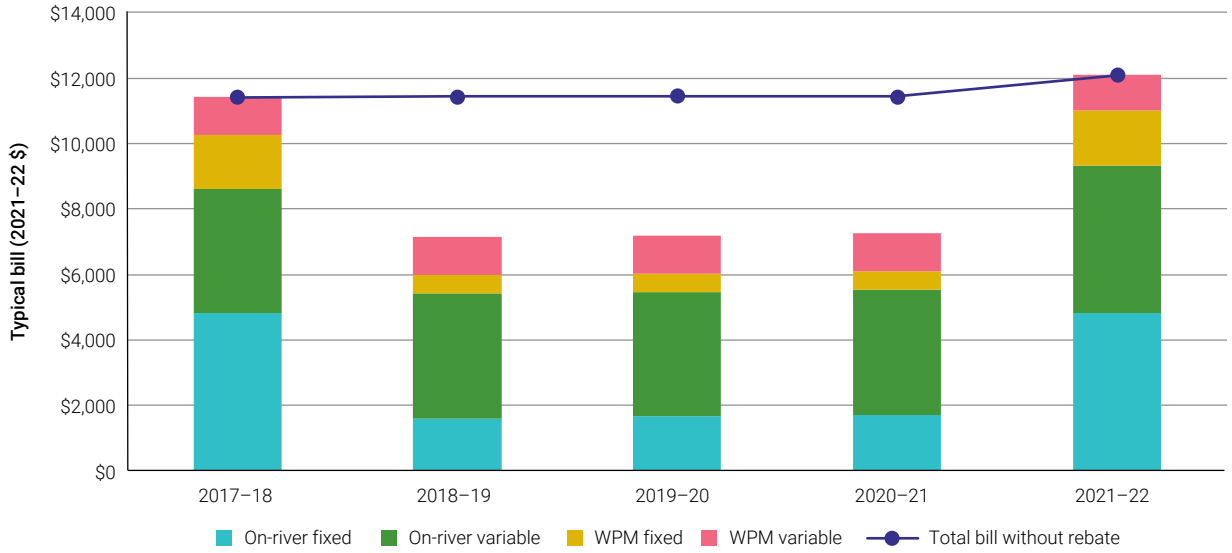


Chart 3.15 illustrates the impacts of IPART's 2021 price review and the drought rebate on typical bills for general security water access entitlement holders in the Murray regulated river system. It also shows what a typical bill would have been had a rebate not been applied between 2018–19 and 2020–21.

Chart 3.15: Typical on-river infrastructure operator bills (2021–22 $), 1,000 ML general security water access entitlements, 100% delivered, NSW Murray regulated river system, by charge component



Off-river typical bills in the Murray rose due to increases in WaterNSW's charges and the end of NSW drought rebate

The ACCC calculates typical bills for 5 off-river infrastructure operators in the Murray valleys. These are:

- Murray Irrigation Limited (Murray Irrigation)
- Western Murray Irrigation (Western Murray)
- West Corurgan Private Irrigation District (West Corurgan)
- Moira Private Irrigation District (Moira)
- Eagle Creek Pumping Syndicate (Eagle Creek).

All of these operators meet the definition of an irrigation infrastructure operator because their water service infrastructure is operated for the primary purpose of irrigation.

The ACCC calculated high security bills for each of Western Murray Irrigation's (pressurised) networks (Curlwaa, Coomeala, and Buronga), and general security typical bills for the Murray Irrigation, Eagle Creek, West Corugan and Moira.

Western Murray differs from the other 4 networks, as it predominantly holds high security water access entitlements, and operates a pressurised network. By comparison, Murray Irrigation, Eagle Creek, West Corurgan and Moira predominantly hold general security water access entitlement and operate gravity-fed networks. Overall, the operators that hold general security water access entitlements hold around 66% of the total volume of general security water access entitlements on issue in the New South Wales Murray regulated river water source.[106] Murray Irrigation is the largest private water supply network in Australia.[107]

Typical bills for Western Murray were calculated based on a customer with 250 ML of high security irrigation rights and 100% of that nominal entitlement being delivered in 2021–22. These typical bills increased by 3% (Buronga), 5% (Coomealla) and 6% (Curlwaa). These increases were mostly due to IPART's 2021 price review, with increased off-river costs contributing the balance. They were not impacted by the cessation of the NSW drought rebate because it did not apply to high security water access entitlement holders in the New South Wales Murray.

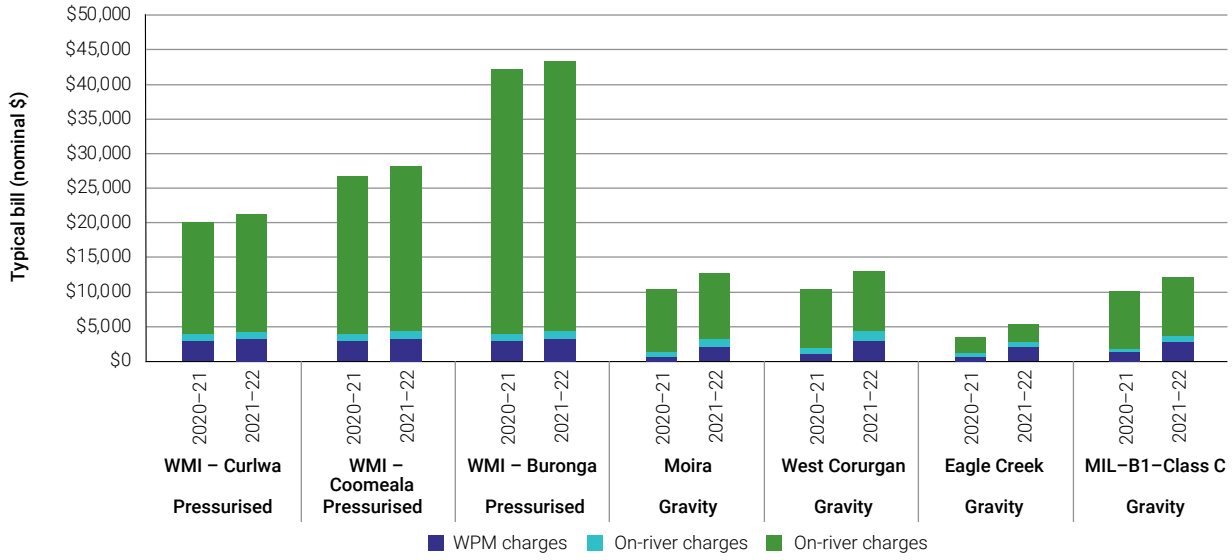
Since typical bills for the other Murray valley operators were based on general security irrigation rights, they were impacted by both IPART's 2021 price review and the cessation of the NSW drought rebate. For 250 ML of general security irrigation rights at 100% water delivered:

- Eagle Creek's typical bill was the lowest but had the highest percentage increase, 54% to $5,290 in 2021–22 compared to 2020–21
- Moira's typical bill increased from 2020–21 by 22% to $12,724 in 2021–22 compared to 2020–21
- Murray Irrigation's typical bill increased by 19% to just over $12,000 in 2021–22 compared to 2020–21.

106 Based on general security volumes reported to the ACCC for 2021– and data sourced from the NSW Water Register available here, accessed 27 July 2022.

107 Murray Irrigation Annual Report 2022, p 5.

Chart 3.16 Typical off-river infrastructure operator bills (nominal $), 250 ML irrigation rights, 100% delivered, NSW Murray regulated river system, by charge component



The ACCC's typical bills incorporated the following charges for each of the irrigation infrastructure operators.

- **Murray Irrigation:** Murray Irrigation's typical bill included the following fixed charges:
  - the account administration fee – manual ($230.41 per account)
  - annual landholding access fee ($1,307.05 per landholding)
  - large irrigation outlet fee ($924.75 per large irrigation outlet)
  - delivery entitlement fee ($7.20 per ML of water delivery right held)
  - annual asset maintenance renewal reserve fee ($5.05 per ML of water delivery rights held)
  - the recovery of WaterNSW, MDBA and WAMC fixed charges.

  Murray Irrigation's typical bill also included the following variable charges:
  - Murray Irrigation's usage fee ($48.78 per ML for the first 5ML of water delivered (tier one), $13.18 per ML for 6th–100th ML of water delivered (tier 2) and $6.57 per ML for the 101st – 250th ML of water delivered)
  - the drainage fee (0.54c per ML water delivered)
  - recovery of WaterNSW, MDBA and WAMC usage charges.
- **West Corurgan:** West Corurgan's typical bill included the following fixed charges:
  - network access fee ($18.50 per ML of water delivery rights held)
  - recovery of WaterNSW, MDBA and WAMC fixed charges.

  West Corurgan's typical bill also included the following variable charges:
  - water consumption fee ($24.60 per ML of water delivered). This fee recovers costs including variable network operation costs and WaterNSW, MDBA and WAMC usage charges, including for water used to cover West Corurgan's conveyance losses.
- **Western Murray:** Western Murray's typical bill included the following fixed charges:
  - access fee for delivery entitlement ($119.60 Buronga; $71.10; Coomealla; $57.70 per ML of water delivery rights)

- asset replacement fund ($20.92 for Buronga; $14.28 for Coomealla; $9.96 for Curlwaa per ML of water delivery rights)
- joint venture repayment (Coomealla only) ($9.20 per ML of water delivery rights)
- infrastructure loan repayment (Buronga only) ($15 per ML of 'water delivery rights)
- membership levy ($0.37 per ML of irrigation rights)
- recovery of fixed and variable WaterNSW bulk water charges and WAMC charges.

Western Murray's typical bill contains no variable components.

- **Moira:** Moira's typical bill included the following fixed charge:
  - operating costs charge ($22.50 per ML of water delivery rights). This includes some of Moira's own off-river costs, recovery of WaterNSW, MDBA and WAMC fixed charges and a loss factor.

  Moira's typical bill included the following variable charges:
  - Moira delivery fee ($22 per ML of water delivered)
  - recovery of WaterNSW, MDBA and WAMC fixed charges.[108]
- **Eagle Creek i**s a joint water supply scheme, where customers jointly hold a high security and general security water access entitlement (rather than the operator holding the entitlement and customers holding irrigation rights). The ACCC's typical bill reflects charges for Eagle Creek's general security customers and includes the following fixed charges:
  - Eagle Creek fixed charge ($5.43 per ML)
  - recovery of WaterNSW, MDBA and WAMC fixed charges.

  Eagle Creek's typical bill also included the following variable charges:
  - Eagle Creek usage charge ($4.38 ML of water delivered)
  - recovery of WaterNSW, MDBA and WAMC usage charges.[109]

Water delivered, transformations, and terminations and trade for irrigation infrastructure operators in the NSW Murray

Murray Irrigation Limited

Table 3.10 shows that Murray Irrigation Limited delivered 12% more water in 2021–22 compared to 2020–21. The volume of terminations fell from 5 ML to 0. The volume of water delivery trades was also down substantially. The volume of water delivery rights traded or terminated was a small percentage (less than 1%) of the volume of water delivery rights on issue. The volume of irrigation rights transformed was down 77% and this was a small proportion of the volume of irrigation rights on issue in 2021–22 (around 0.4%).

Water allocation trade volumes were up by between 27% and 55% and Murray Irrigation was a net importer of water in both 2020–21 and 2021–22.

108 The ACCC subtracted the weighted NSW Government general security fixed charges from Moira's administration operating costs charge and used the difference as Moira's fixed off-river infrastructure charge (at $16.0 per ML).

109 Eagle Creeks fees start on 1 October each year. The ACCC typical bill weights their fixed and usage charges.

Table 3.10 Water deliveries, transformations, terminations and trades Murray Irrigation, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	859,597	966,400	12	
Water delivery rights				
Water delivery rights on issue	1,049,581	1,049,581	0	
Water delivery rights terminated or surrendered	5	0		
Water delivery rights traded	14,772	8,399	-43	0.8
Irrigation rights				
Irrigation rights on issue	990,238	987,726	-1	
Irrigation rights traded	57,468	42,685	-25	4
Irrigation rights transformed	17,664	4,106	-77	0.4
Allocation trade				
Into	209,309	153,404	-27	
Out of	111,078	136,378	23	
Within	126,604	196,136	55	

Western Murray Irrigation

Table 3.11 shows that Western Murray delivered 3% more water in 2021–22 compared to 2020–21. The volume of terminations was up 39% but the volume of water delivery trades was down substantially. The volume of water delivery rights traded, terminated or surrendered was a small percentage (together around 3%) of the volume of water delivery rights on issue. The volume of irrigation rights transformed was also down substantially and was also a small proportion of the volume of irrigation rights on issue in 2021–22 (around 1%).

Western Murray Irrigation was a net exporter of water in both 2020–21 and 2021–22.

Table 3.11 Water deliveries, transformations, terminations and trades, Western Murray Irrigation, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	25,098	25,688	3	
Water delivery rights				
Water delivery rights on issue	41,826	41,891	0.2	
Water delivery rights terminated or surrendered	355	481	39	1.1
Water delivery rights traded	4,253	777	-82	1.9
New water delivery rights issued	0	546		
Irrigation rights				
Irrigation rights on issue	32,549	32,160	-1	
Irrigation rights traded	1,800	239	-87	0.74
Irrigation rights transformed	2,907	447	-85	1.4
Allocation trade				
Into	9,493	11,594	22	
Out of	14,423	15,997	11	
Within	3,009	2,185	-27	

West Corurgan

Table 3.12 shows that West Corurgan delivered 11% less water in 2021–22 compared to 2020–21. The volume of terminations was up 100% and the volume of water delivery rights trades was down almost 80%. The volume of water delivery rights traded or terminated was a small percentage (less than 1% together) of the volume of water delivery rights on issue. The volume of irrigation rights transformed fell from 891 ML (1.7% of the irrigation rights on issue in West Corurgan) in 2020–21 to zero in 2021–22.

Table 3.12 Water deliveries, transformations, terminations and trades, West Corurgan, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	21,701	19,342	-11	
Water delivery rights				
Water delivery rights on issue	57,749	57,649	-0.2	
Water delivery rights terminated or surrendered	50	100	100	0.17
Water delivery rights traded	1,445	300	-79	0.52
Irrigation rights				
Irrigation rights on issue	52,023	52,023	0	
Irrigation rights traded	645	250	-61	0.48
Irrigation rights transformed	891	0	267	0
Allocation trade				
Into	9,589	220	-97	
Out of	319	5,231	1540	
Within	4,145	3,132	-24	

Moira Private Irrigation District

Table 3.13 shows that Moira delivered 41% more water in 2021–22 compared to 2020–21. There were zero terminations of water delivery rights and the volume of irrigation rights and water delivery right on issue was stable, and percentage of water delivery rights and irrigation rights traded was a very small percentage of the rights on issue (less than 1% for both).

Moira reported was no water allocation trade, in out or within its network.

Table 3.13 Water deliveries, transformations, terminations and trades, Moira, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	16,549	23,262	41	
Water delivery rights				
Water delivery rights on issue	29,583	29,583	0	
Water delivery rights traded	0	110		0.4
Irrigation rights				
Irrigation rights on issue	29,102	29,102	0	
Irrigation rights traded	30	110	267	0.4

Eagle Creek

Table 3.14 shows that Eagle Creek delivered 18% less water in 2021–22 compared to 2020–21. Eagle Creek is a joint water supply scheme. This means that the members hold a share of the water access entitlement rather than irrigation rights.

Table 3.14 Water deliveries and termination volumes for Eagle Creek Pumping Syndicate, 2020–21 and 2021–22

	2020–21	2021–22	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered to customers (excluding conveyance)	6,365	5,222	-18	
Water delivery rights				
Water delivery rights on issue	13,260	13,064	-2	
Water delivery rights terminated or surrendered	185	196	6	1.5
Allocation trade				
Into	1,451	958	-34	
Out of	48	2,729	5,585	
Within	1,076	3,686	242	

Small irrigation infrastructure operators in New South Wales

There are several other off-river operators in New South Wales reporting to the ACCC that meet the definition of an irrigation infrastructure operator. That is, they operate water service infrastructure primarily for the purpose of delivering water for the purpose of irrigation. These operators hold less than 10GL of water access entitlements. These operators include Bama Irrigation Trust, Bringan Irrigation Trust, Bullatale Irrigation Trust, Bungunyah-Koraleigh Irrigation Trust, Cadell Construction Joint Water Supply Scheme Glenview Irrigation Trust, Goodnight Irrigation Trust, Gunbah Private Water Supply Board, Little Merran Creek Water Trust, Pomona Irrigation Trust and West Cadell Irrigation Trust.[110] The ACCC does not calculate typical bills for these operators or report transformation or termination volumes for these operators.

Water Planning and Management revenue and charges in NSW

Responsibility for water planning and management (WPM) related matters (among other water-related matters) is shared by WaterNSW and the NSW Department of Planning and Environment (DPIE). WaterNSW supplies water from its storages, operates both surface and groundwater resources and manages customer billing, water trade and other transactions. DPIE is responsible for policy, water market regulation and overseeing major government funded water

110 New South Wales Land Registry Services (2022), Private water trusts, accessed 15 February 2023.

infrastructure projects. While WaterNSW and the DPIE both perform water planning and management related activities, revenue is collected by WaterNSW.[111]

The ACCC provides an estimate of cost recovery by comparing the annual expenditure on water planning and management activities and annual revenues generated. There are limitations to assessing cost recovery rates as the level of some water planning and management charges do not clearly relate to the costs of water planning and management activities and cost recovery for water planning and management activities, especially capital expenditure, may take place over an extended period.

WaterNSW includes water planning and management revenues for regions outside the Basin in the figures reported to the ACCC. Where possible, the ACCC removes these revenues when reporting here. Most of WaterNSW's water planning and management charges are fixed volumetric charges ($ per water access entitlement) and variable volumetric charges (per megalitre (ML) of usage). Metering charges are levied per meter.

Water planning and management revenues reported by WaterNSW decreased in nominal terms by 1.3% in 2021–22 compared to 2020–21. The decrease was caused by a reduction in the total units[112] charged from around 15.1 million to just over 14.9 million units. A 28% reduction in the units charged for groundwater services and a 6% reduction in the units charged for unregulated water offset a 6% increase in the units charged for regulated water. WaterNSW's reported water planning and management costs increased in nominal terms by 16% to just under $41 million. Expenditure on water monitoring increased by 16% and expenditure on hydrometric renewals more than doubled, due to renewal and replacement of meters (some due to flooding), as well as the reclassification of some costs.

Table 3.15: WaterNSW estimated rate of cost recovery (2021–22 $M)

	2017–18	2018–19	2019–20	2020–21	2021–22
Costs	$46.5	$37.3	$36.9	$36.9	$40.9
Revenues	$38.2	$37.6	$36.2	$36.9	$34.8
Rate of cost recovery	82%	101%	98%	100%	85%

WaterNSW also collects charges on behalf of the NSW Water Administration Ministerial Corporation (WAMC charge) and the Murray–Darling Basin Authority (WAMC (MDBA) charge). The WAMC charge and WAMC (MDBA) charge are water planning and management charges.

On WaterNSW's 2021–22 schedule of charges, the WAMC charge was unbundled, listing both a WAMC and WAMC (MDBA) charges on the schedule (whereas they had previously been bundled). The combined amount of the WAMC and WAMC (MDBA) charges increased in 2021–22 compared to 2020–21. For the NSW Northern Basin regulated water sources, the increase in fixed WAMC charges ranged from less than half a percent in the Namoi valley to 58% in the Border Rivers valley. The WAMC charges for the NSW Murray and Murrumbidgee varied with a decrease of 2% for the Murray usage charge and a 4% increase for the Murrumbidgee usage charge. The fixed component of the WAMC increased 14% in the Murray and 13% in the Murrumbidgee.

The DPIE's water planning and management expenditure increased by nearly 31% to $132.9 million. This included an increase in spending on water management works of $52.3 million from

111 As noted by ACCC (2019), Water monitoring report 2017–18, DPIE spending is not the actual spending incurred. Rather it is derived by using IPART cost drivers. The costs for each activity are provided to IPART for review and the proportion that is be recovered from users through Water Administrative Ministerial Corporation (WAMC) charges. IPART then makes a determination on the proportion to be recovered from users with the NSW Government funding the remaining percentage.

112 A unit is the number of times the charge was imposed.

$28.9 million to $81.2 million (nominal). Water management works are activities undertaken to reduce the impacts of water use or to remediate water courses.

Table 3.16: New South Wales Department of Planning and Environment water planning and management expenditure (2021–22 $M)

	2017–18	2018–19	2019–20	2020–21	2021–22
DPIE Costs	$35.5	$71.1	$73.7	$106.1	$132.9

Water Planning and Management revenue and charges in the ACT

The Environment, Planning and Sustainable Development Directorate (EPSDD) is responsible for the water planning and management activities in the ACT. Icon Water is the supplier of essential water and sewerage services in the ACT and operates infrastructure such as dams and sewage treatment plants.

The costs of the water planning and management activities fell by 4% nominal to $11.8 million dollars from 2020–21. The EPSDD undertook new activities totalling around $5.8 million during 2021–22. Spending on the Healthy Waterways program comprised 85% of the total spend on new activities.[113]

Revenue from water planning and management charges fell by 4.2% to $29.9 million from 2020–21. The urban water abstraction fee comprises 98.5% of the water planning and management revenue generated in the ACT. The remainder comprises revenue generated through water access entitlement fees, application fees and administration fees. The reduction in revenue is from drops in the units charged from the water abstraction fees which fell by 8% to 46.4 million units charged. [114]

113 The Healthy waterways program is an initiative to improve the quality of water entering the ACT's lakes and waterways and flowing downstream into the Murrumbidgee river system and other activities related to water monitoring, accessed 16 February 2023.

114 As above, a unit refers to the number of times a charge is imposed.

4

Victoria

4. Victoria

There are 4 infrastructure operators in the Victorian part of the Basin. These are Goulburn Murray Water (GMW), Lower Murray Water (LMW), Grampians Wimmera Mallee Water (GWMW) and Coliban Water (Coliban). All 4 are government-owned statutory corporations. The ACCC only reports on water planning and management revenue and costs for GWMW and Coliban because they primarily deliver urban water. The majority of this chapter focuses on GMW and LMW.

GMW and LMW's charges are regulated by the Essential Services Commission of Victoria (ESCV) in accordance with the water charge rules. However, on 13 April 2022, the ACCC determined that GMW and LMW would cease to be Part 6 operators under rule 23 of the water charge rules after 30 June 2024 (GMW) and 30 June 2023 (LMW).[115] This means that the ESCV will continue to regulate GMW and LMW's infrastructure charges after the end of their current respective regulatory periods but will do so under Victorian law (rather than the water charge rules).

Charges levied by GMW and LMW have risen by less than inflation since 2019–20, meaning they have fallen in real terms.

Aside from the charges levied by SA Water on its transportation customer, LMW continued to have the highest off-river typical bills in both pressurised and gravity fed systems, although they have been steady or falling in real terms since 2014–15.

A total of 7 GMW customers transformed 266.5 ML of irrigation rights in 2021–22.[116] There were no transformations in LMW.

Irrigators in GMW and LMW terminated around the same average amount of water delivery rights as in past years. This was about 0.2% (LMW) and 0.4% (GMW) of the total water delivery rights held by customers.

This chapter covers:

- typical bills calculated by the ACCC for on-river and off-river charges levied by GMW and LMW
- transformation and termination volumes for LMW and GMW
- water planning and management in the Victorian part of the Murray–Darling Basin.

GMW's services and charges

GMW is vertically integrated and the largest infrastructure operator[117] in Australia. It is the storage and resource manager for all northern Victorian declared water systems – Broken, Bullarook, Campaspe, Goulburn, Loddon, Murray and Ovens.[118] GMW's services include delivering bulk water to LMW. GMW also delivers water to individual irrigators in 6 gravity-fed irrigation districts – Shepparton, Central

115 ACCC (2022), Goulburn-Murray Water: Part 6 ceasing decision and Lower Murray Water: Part 6 ceasing decision.

116 In these cases, individual members of syndicates which had water supply agreements with GMW transformed their irrigation rights to obtain their own water access entitlements. The Victorian water dictionary explains that a syndicate is a group of people who hold an entitlement together, most commonly a works licence.

117 As defined in s. 7 of the *Water Act (Cth)* (the Water Act). An infrastructure operator owns or operates water service infrastructure for the storage, delivery or drainage or water to provide a service to someone who does not own or operate the infrastructure. Both GMW and LMW also meet the definition of an irrigation infrastructure operator in s. 7(4) of the Water Act because they are infrastructure operators that operate water service infrastructure for the purposes of delivering water for the primary purpose of being used for irrigation.

118 Goulburn-Murray Water (GMW), Overview and seasonal determinations, accessed 3 April 2023.

Goulburn, Rochester, Loddon Valley, Murray Valley and Torrumbarry and 3 pressurised irrigation districts – Tresco, Nyah and Woorinen.

GMW's pricing for both on-river and off-river services is approved by the ESCV. Pricing for 2021–22 relates to the 2nd year of GMW's current 4-year regulatory period (1 July 2020 – 30 June 2024). The ESCV approved a revenue cap and set an allowed amount of revenue for each year of the period, based on its assessment of GMW's efficient costs.[119] GMW can propose prices for individual services each subsequent year provided that the total revenue does not exceed the cap.

The revenue allowed for the 2020–24 regulatory period is about 13% lower than for the previous period (2016–20). This reduction is driven by cost efficiencies arising from infrastructure modernisation and GMW's business transformation program. The reduction in allowed revenue is reflected in price reductions averaging around 10% in 2020–21, while prices in 2021–22 and later years are set to fall by a little less than 1% per annum.[120]

The ESCV approval several significant changes in price structure for GMW's 2020–24 regulatory period. The major changes, relating to storage fees and distribution charges, were implemented in 2020–21. Subsequent price changes in 2021–22 involved customer fees and service point fees and CPI indexation.

GMW's bulk water (on-river) charges

GMW has 2 main on-river charges, which cover the costs of its on-river water storage and delivery services in each regulated river system.

- **Entitlement storage fee** – this charge is payable by customers who own water shares (water access entitlements) for regulated rivers. This includes irrigators – whether in networks or private diverters. Entitlement storage fees are levied per ML of the type of water access entitlement held (referred to as water share in Victoria).[121] The storage fees are higher for high reliability shares than for low reliability shares.
- **Bulk water entitlement fee** – this charge is payable for the storage and delivery of water only for customers with bulk water entitlements. This includes GMW's retail arm, urban and rural water authorities (including LMW), commercial businesses and environmental water holders. In most basins, there are only high reliability bulk water entitlements but there are some low reliability bulk water entitlements in the Bullarook and Murray basins.

Entitlement storage fees levied on irrigators and private diverters have fallen in real terms since 2019–20

The entitlement storage fee is levied on (non-bulk) water access entitlement holders, including irrigators in irrigation districts and private diverters. Beginning in the 2020–24 regulatory period, GMW moved to a uniform storage price for entitlement storage fees in each of the basins in the Goulburn and Murray systems. This is a weighted average of the basin prices within that system. The entitlement storage fee for basins in the Goulburn system (Broken, Goulburn, Campaspe, Loddon and

119 ESCV (2020) Goulburn-Murray Water draft decision – 2020 Water Price Review, 11 March 2020, p 33, accessed 7 June 2023.

120 ibid, p iv. See also: ESCV (2020), Goulburn–Murray Water price determination: 1 July 2020 – 30 June 2024, ESCV (2020) Goulburn-Murray Water final decision: 2020 Water Price Review, and GMW (2021), Application for Annual Price Review of Fees and Charges 2021–22. More information is at ESCV (2020), Goulburn-Murray Water price review 2020, accessed 7 June 2023.

121 For customers in irrigation networks, it is just one component of their bills in addition to charges based on their use of irrigation infrastructure. Private diverters (customers who take water directly from a watercourse) also pay a customer fee, water register fee and service charges.

Bullarook) was $9.83 per ML and $11.27 per ML for the Murray system (Murray and Ovens basins) in 2021–22.

For GMW's private diverter customers, the entitlement storage fee is the largest component of their bill.[122]

LMW is an off-river infrastructure operator that delivers water for irrigation, stock, urban and environmental uses between Kerang and the South Australian border.[123] LMW delivers water to one pressurised irrigation district (Robinvale), and 3 gravity fed irrigation districts (First Mildura, Merbein and Red Cliffs). LMW also passes through GMW's entitlement storage charge (for on-river water storage and delivery services) to customers who are private diverters on the River Murray (below Kerang).

Typical bills for LMW private diverters include the entitlement storage fee passed through from GMW, as well as an LMW operational fee of $2.76 per ML of annual use limit, the LMW service charge ($100 per year) and a water share fee levied by the then Department of Environment, Land, Water and Planning (DELWP) ($13.41 per water access entitlement (water share)).[124]

Typical on-river bills in all systems increased by 1% in 2021–22, a slight fall in real terms.

Victorian bulk water charges vary widely between basins and are generally higher than the charges levied on other water access entitlement holders

Charts 4.1 and 4.2 shows that on-river bills for holders of bulk water entitlements vary widely between Victorian basins. The only component of these bills is the bulk water entitlement fee, which ranges from $7.69 per ML in the Goulburn to $477.04 per ML in the Bullarook.[125] Apart from the Goulburn basin (in the Goulburn system) and Murray basin (in the Murray system), bulk water charges are generally higher than the storage entitlement fees which are levied on non-bulk water access entitlement holders.

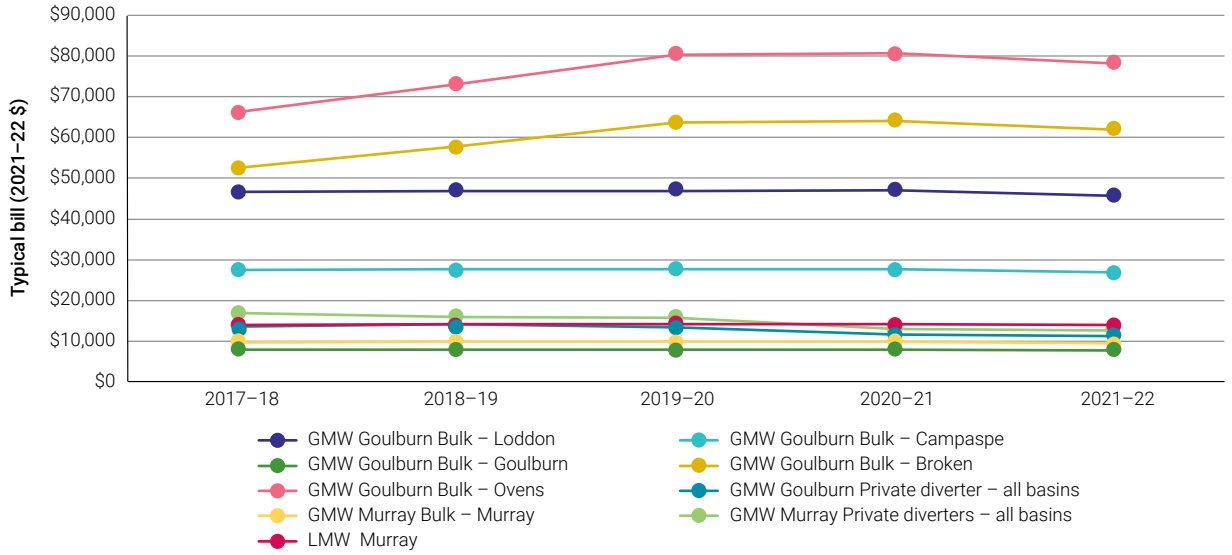
122 Typical bills include a customer account fee ($130 per year in 2021–22), a water registry fee ($13.62 per year). GMW's service point charge for diverters on regulated waterways was $145 for unmetered and $400 for each metered point. The typical bill assumes that a GMW private diverter is an irrigator who extracts water directly from the watercourse, holds 1,000 ML of high reliability water access entitlement, holds 10 extraction shares based on the Victorian conversion rules at the time of unbundling and a metered service point. An extraction share is a share of the total amount of water that can be drawn from regulated rivers at a certain point over a given period. Extraction shares are used to restrict water extraction in times of high demand. Victorian Water Register, 'Water Dictionary', 2021, accessed 31 March 2023.

123 LMW does not provide a bulk water service or an on-river infrastructure service. However, LMW does impose a bulk water charge for a bulk water service and therefore meets the definition of a bulk water supplier in the Water Act 2007 (Cth) (s 91) and the Water Regulations 2008 (r 4.01A(3)). GMW provides the bulk water service as the Northern Victorian Resource Manager and LMW passes through the bulk water charges to all its customers. ACCC's 2020–21 monitoring report (s.4.5) provides a further snapshot of LMW's operations.

124 The Annual Use Limit is the maximum volume of water that may be used on the land in an irrigation season and is based on the salinity impact of water use in the Mallee region. The water share fee is a pass through from the Victorian water register, one fee per water access entitlement (water share). As of 1 January 2023, water policy in Victoria is now administered by the Victorian Department of Energy, Environment and Climate Action (DEECA).

125 $61.95 per ML in the Broken, $7.69 per ML in the Goulburn, $26.86 per ML in the Campaspe, $45.59 per ML in the Loddon, $477.04 per ML in Bullarook, $9.53 per ML in the Murray and $78.13 per ML in the Ovens in 2021–22.

Chart 4.1: Typical on-river infrastructure operator bills (2021–22 $), 1,000ML water access entitlements, 100% delivered, GMW



Notes: Bullarook has been omitted as its bills at over $400,000 are too high to show in the chart without distortion.
Source: ACCC from data provided by GMW and LMW.

Chart 4.2: Typical on-river infrastructure operator bills (nominal $), 1,000 ML high reliability bulk entitlements, 100% delivered, GMW and LMW by charge component

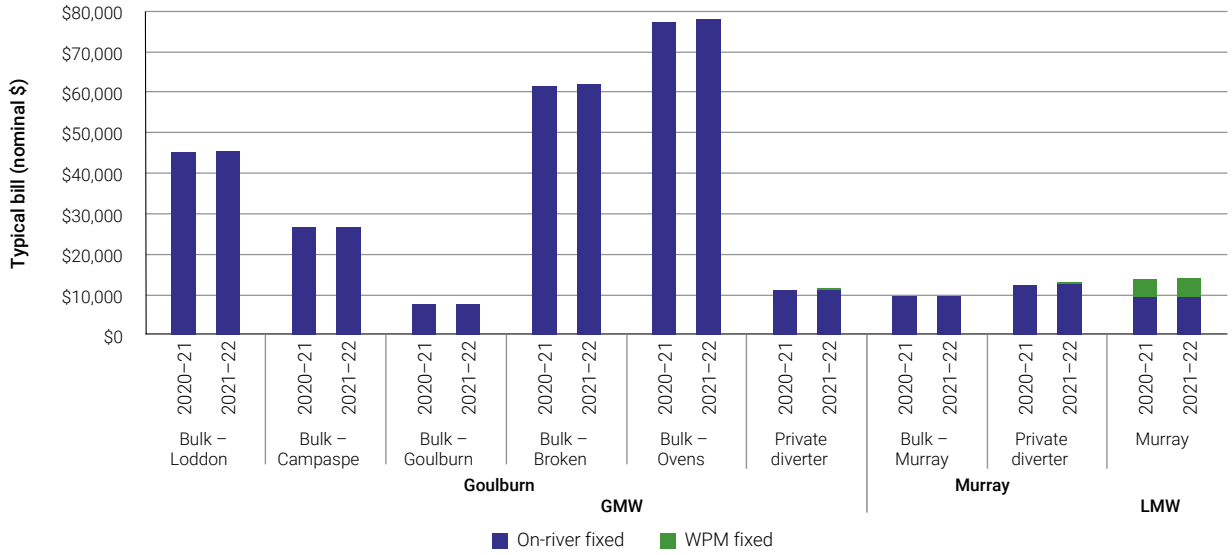
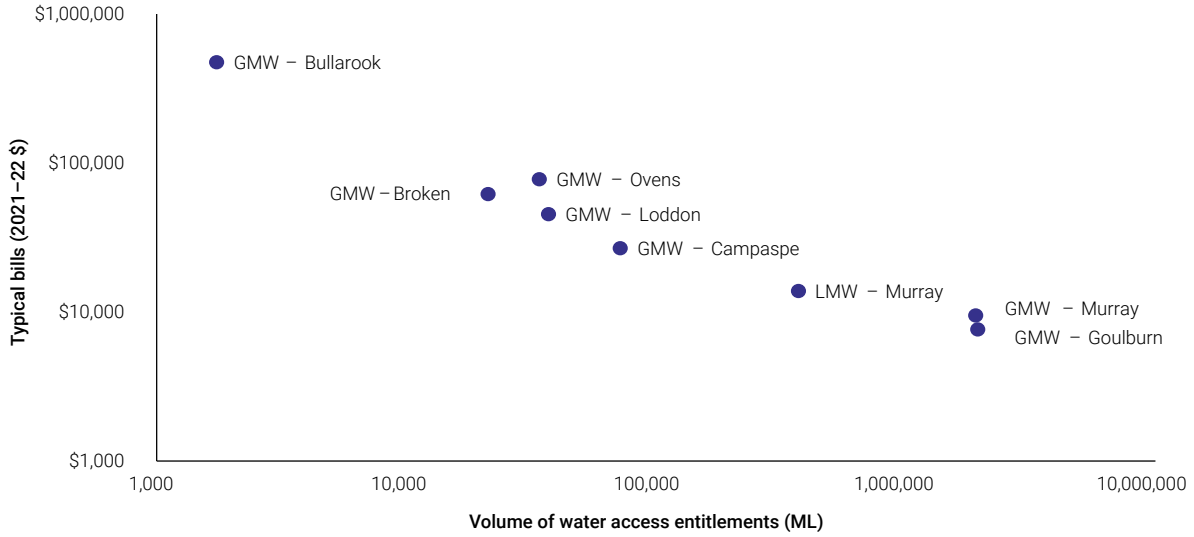


Chart 4.3 shows that customers with bulk water entitlements in smaller basins (measured by volume of water entitlement on issue) tend to face higher bills. In particular, the 3 Basins with highest typical bills – Bullarook, Broken and Ovens – are the smallest basins. This reflects economies of scale, which provide lower costs per unit as size increases.

Chart 4.3 Relationship between size of Basin (volume of entitlements on issue (ML)) and size of typical on-river bill for bulk entitlements



Note: Both axes are on a logarithmic scale with base 10 in the light of the large differences between the different values.
Source: ACCC from data provided by GMW and LMW.

GMW and LMW's off-river charges

Similarly to GMW, LMW's off-river charges are constrained by a revenue cap for each year of its regulatory period, set by the ESCV.[126] LMW can propose prices for individual services each year after the first, within pre-defined limits, provided that the total revenue does not exceed the cap. LMW's charges for 2021–22 relate to the 4th year of LMW's 2018–23 regulatory period.

GMW and LMW off-river typical bills rose by less than inflation in 2021–22

For gravity-fed areas the off-river component accounts for about 84% of the typical bill, with the remaining 16% consisting of on-river charges (15%) and water planning and management charges (1%). For pressurised areas the off-river component is around 88%.

LMW continued to have the highest off-river typical bill for both pressurised and gravity fed systems in 2021–22, with a per ML charge more than double most other operators in the Basin. However, LMW's typical bills have been stable or falling since 2014–15.

For 2021–22, the ACCC's typical bill analysis is based on the following assumptions:

- For GMW networks, an irrigator holds 250 ML of high reliability water shares and holds a daily water delivery share volume equal to 1/100 of the water share volume or 2.5ML/day.
- A GMW typical bill includes a fixed storage entitlement charge (per ML of high reliability water share), a fixed infrastructure access charge (per ML of daily delivery share), a variable infrastructure use charge (per ML of water used), fixed and variable drainage charges, fixed service point charges (per service point), a fixed customer charge (per customer), and a fixed water register charge.

126 ESCV (2018), Lower Murray Water, final decision, rural services: 2018 Water Price Review, pp 23 and 27, accessed 7 June 2023).

- For LMW networks, an irrigator holds 250 ML of high reliability water shares and holds an equivalent number of water delivery shares (30) which is 0.12 times the water share of 250 ML.
- A LMW typical bill includes a fixed storage entitlement charge, a fixed delivery share charge, a variable metered water usage fee, a fixed property drainage fee, a fixed service charge and a fixed DELWP water share fee.

Charts 4.4 shows that off-river typical bills for GMW and LMW customers in pressurised networks either fell or rose marginally (-1% to 1%) in 2021–22.

Chart 4.4 Typical off-river infrastructure operator bills (nominal $), 250 ML high reliability water access entitlements, 100% delivered, Victorian pressurised networks, by charge component

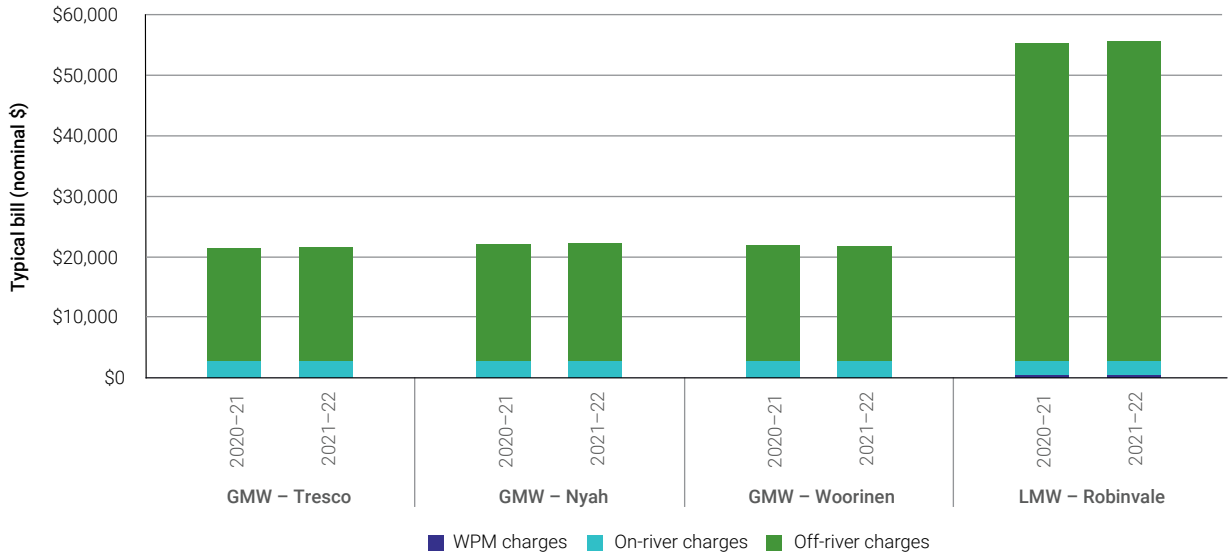


Chart 4.5 shows that off-river typical bills for GMW and LMW customers in gravity fed irrigation districts either increased by less than CPI or fell by up to 8%. For example, the typical bill for LMW's customers in Merbein fell by 6% to $28,254 ($113 per ML), with a larger 8% fall in Red Cliffs. There were smaller falls or increases (-1% to 1%) in LMW's Mildura irrigation district and GMW's irrigation districts.

GMW's prices reflect minor changes due to:

- an adjustment in service point fees, phased in over the 2020–24 regulatory period
- the introduction of a fixed annual customer fee and a water registry fee, replacing an earlier service fee.[127]

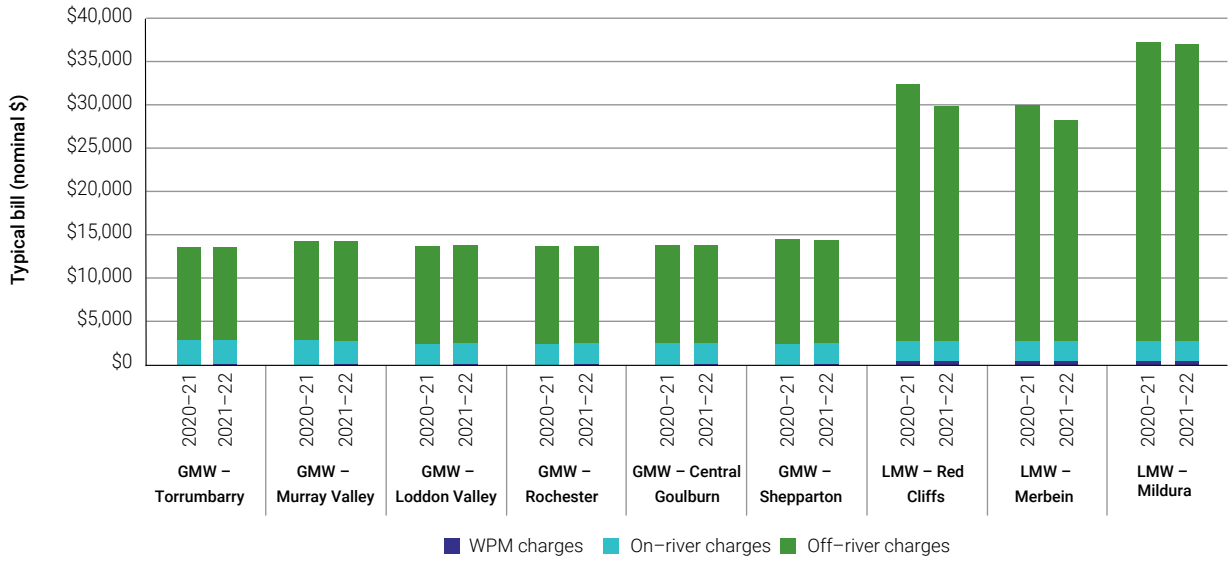
LMW's price reductions in 2021–22 resulted from a redistribution of income made possible by the Sunraysia Modernisation Project Stage 2 (SMP2). The project used spare capacity in the Merbein and Red Cliffs irrigation districts to develop land outside the districts, thereby spreading the fixed costs of supply over a wider base.[128] SMP2 was completed in October 2019 at a cost of $8.4 million, with contributions from the Australian and Victorian governments.[129] The benefit was not reflected in LMW's revenue caps for 2018–23 because they were unclear at the time.

127 GMW (2021), Application for Annual Price Review of Fees and Charges 2021–22, accessed 9 June 2023.

128 LMW (2017), 2018–2023 Price Submission – Rural Lower Murray Water, p 18, accessed 9 June 2023.

129 ESCV (2023), Lower Murray Water draft decision: 2023 Water price review, 30 March 2023, p 62, accessed 7 June 2023.

Chart 4.5: Typical off-river infrastructure operator bills (nominal $), 250 ML high reliability water access entitlements, 100% delivered, Victorian gravity networks, by charge component



Terminations

A total of 48 GMW customers terminated 60 delivery rights in terms of ML per day in 2021– 22, close to the historic average. This amount was equivalent to 16,165 ML and is only 0.4% of the total water delivery rights held by GMW's customers.

GMW collected $1.06 million in termination fees from the 27 terminations for which a fee was charged. There were 21 other terminations where no fee was charged as they were part of GMW's Connections program, part funded by the Australian Government. Termination fees represented less than 1% of GMW's revenue for 2021–22.[130]

A total of 9 LMW customers terminated 35 water delivery rights in terms of ML per day in 2021–22, equivalent to 296 ML, which is only 0.2% of LMW water delivery rights on issue.[131] The volume terminated is close to the average annual volume reported since 2010–11. LMW collected $194,000 in termination fees from these terminations, all of which carried a fee.

Transformations

Since 2007 there have been few transformations in Victoria compared with NSW. In 2007 the Victorian Government unbundled water entitlements and nearly all irrigation rights were transformed into tradeable water entitlements. However, in 2021–22 GMW processed 7 transformations equating to a total of 266.5 ML of irrigation rights. Of this, a total of 183.7 ML was transformed into high reliability water access entitlements and 82.8 ML was transformed into low reliability water access entitlements. These originated in syndicates which had water supply agreements with GMW. Individual members of a syndicate transform their irrigation rights to obtain their own individual water access entitlements.[132]

130 GMW (2022), Annual Report 2021–22, p 32, accessed 7 June 2023.

131 For LMW, one delivery right is converted to ML of water delivery right by dividing by 0.12.

132 A syndicate is a group of people who hold an entitlement together. See Victorian water register, Water dictionary, accessed 4 April 2023.

LMW did not process any transformations in 2021–22.

Water Planning and management revenue and charges in Victoria

Victoria's main source of water planning and management revenue is the Environmental Contribution levy. This is collected from Victorian water supply businesses under the *Water Industry Act 1994 (Vic)* and paid into a consolidated fund in accordance with a pre-established schedule of payments, which sets out the amounts payable by each business.[133] It is collected to fund initiatives that seek to promote the sustainable management of water or address adverse water-related environmental impacts.[134] Both GMW and LMW's annual reports show that each of these operators paid $2,577,000 in environmental contribution levy in both 2020–21 and 2021–22.[135]

The Victorian government cannot separate water planning management activities that occur within the Basin from activities outside the Basin. Therefore, water planning and management spending figures reported here related to state-wide activities. The Department of Environment, Land, Water and Planning[136] was responsible for the great majority (97%) of Victorian water planning and management costs. The regional operators – GMW, LMW, GWMW and Coliban Water – accounted for the rest.

Victoria's overall cost-recovery on water planning and management charges declined in 2021–22. In real terms, costs rose by 10% to $176 million, while revenues declined by 3% to $30.8 million, covering only 17% of costs. As shown in table 4.2, Victorian infrastructure operators recovered a higher percentage of their water planning and management costs than DELWP, through fees charged to their customers. Only LMW recovers more than 100% of costs.

133 The Water Industry (Environmental Contributions) Act 2004 (Vic) amended the Water Industry Act 1994 (Vic) to make provision for environmental contributions to be paid by water corporations. It established an obligation for corporations to pay into a consolidated fund annual contribution for the first period, from 1 October 2004 to 30 June 2008 in accordance with the pre-established schedule of payments, which sets out the amounts payable by each Corporation. The contribution period has been extended to 30 June 2024. The new environmental contribution (tranche 5) is $2,251,300 annually which commenced in 1 July 2020 and finishes 30 June 2024.

134 The fifth tranche of the environmental contribution (EC5) began on 1 July 2020, and the Victorian government expected this to raise $693.9 million over 4 years to fund continued delivery of the Government's long term water plan, Water for Victoria. See Department of Environment, Land, Water and Planning (2022), Environmental contributions, accessed 7 June 2023.

135 GMW (2022), Annual Report 2021–22, pp 73 and 110, accessed 7 June 2023. LMW (2022), Annual Report 2021–22, p 136, accessed 7 June 2023.

136 The Victorian Department of Energy, Environment and Climate Change (DEECA) replaced DELWP on 1 January 2023.

Table 4.2. Water planning and management revenues and costs, Victoria ($million, $2021–22)

	2017–18	2018–19	2019–20	2020–21	2021–22
Revenues					
DELWP	18.65	26.10	26.27	26.69	25.06
GMW	2.58	2.11	2.46	1.99	1.77
GWMW	0.59	0.63	0.64	0.63	0.62
LMW	1.61	1.73	1.87	1.93	2.92
Coliban	0.01	0.01	0.01	0.01	0.01
Total	**23.44**	**30.58**	**31.25**	**31.26**	**30.38**
Costs					
DELWP	195.03	174.00	150.90	153.49	169.59
GMW	3.56	4.25	4.49	3.75	3.75
GWMW	0.79	0.80	0.58	0.60	0.67
LMW	1.39	1.69	1.46	1.47	1.62
Coliban	0.03	0.03	0.03	0.04	0.03
Total	**200.80**	**180.78**	**157.46**	**159.34**	**175.66**
Cost recovery as %					
DELWP	10	15	17	17	15
GMW	73	50	55	53	47
GWMW	75	78	111	106	92
LMW	116	102	128	132	181
Coliban	38	39	33	25	27
Vic total	**12**	**17**	**20**	**20**	**17**

Source: Data provided by the agencies to ACCC.

5

South Australia

5. South Australia

Typical on-river bills for private diverters in the South Australian Murray fell in real terms in 2021–22 compared to 2020–21. Off-river typical bills for the 2 largest South Australian irrigation infrastructure operators, Central Irrigation Trust (CIT) and Renmark Irrigation Trust (RIT), also rose by less than inflation in 2021–22 compared to 2020–21. Transformation and termination volumes represented a very low proportion of the water delivery rights and irrigation rights on issue in both RIT and CIT in 2021–22 (2% or less).

In 2020–21, SA Water published the charges it levies on Barossa Infrastructure Limited (BIL) and its other transportation customers for the first time.[137] These charges are substantially more expensive than any other regulated water charges monitored by the ACCC, reflecting the cost of transporting water significant distances from the River Murray to these customers.

This chapter covers:

- typical on-river bills for private diverters in the South Australian Murray, and off-river bills calculated for customers of CIT and RIT
- transformation and termination volumes in RIT and CIT
- charges levied by SA Water on BIL and other transportation customers in the Barossa, Clare and Eden valleys
- water planning and management in the South Australian part of the Murray Darling Basin.

On-river typical bills for South Australian private diverters fell in real terms

River operations and water storage for South Australia are largely managed upstream, with water sharing arrangements occurring in accordance with the Murray Darling Basin Agreement (the Agreement). The Murray–Darling Basin Authority (MDBA) is responsible for ensuring that each State (including South Australia) gets the water it is entitled to under the Agreement.[138]

The South Australian Department for Environment and Water (DEW) manages water levels and river flows from the South Australian border using a series of 14 weirs along the river Murray.[139] However, DEW does not levy any charges for the storage or delivery of water. Private diverters on the South Australian River Murray only pay the Natural Resource Management water levy (Division 2),[140] which is a fixed water planning and management charge.

Chart 5.1 shows that the typical on-river bill for private diverters in the South Australian Murray fell in real terms in 2021–22 compared to 2020–21. The only component of this bill is the Natural Resource Management water levy (Division 2). This levy is payable by all water access entitlement holders throughout the South Australian Murray Darling Basin. It contributes to the implementation of the South Australian Natural Resources Management Strategic Plan. DEW collects the levy, which is then

137 SA Water (2023), Third party access to infrastructure, accessed 4 May 2023.

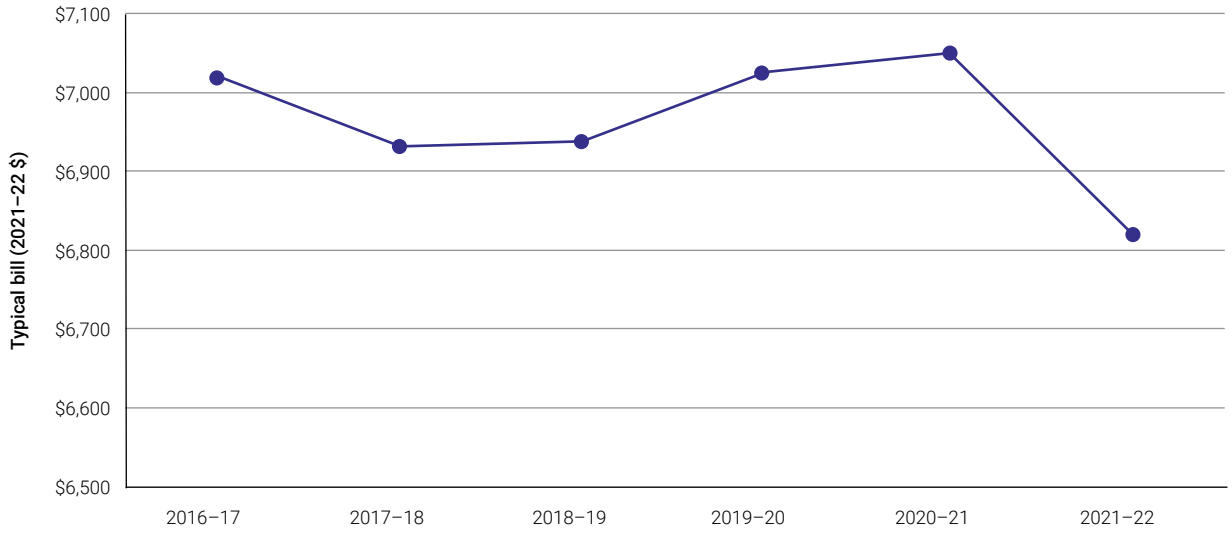
138 Murray Darling Basin Authority (2023), The Murray–Darling Basin Agreement, accessed 4 May 2023.

139 South Australian Department of Environment and Water (2023), Locks, weirs and storages, accessed 4 May 2023.

140 South Australian Department of Environment and Water (2023), Water charges and how they spent, accessed 4 May 2023.

payable to the relevant landscape board to undertake water planning and management activities.[141] This is a fixed levy and there is no variable component.

Chart 5.1. Typical on-river infrastructure operator bills (2021–22 $) for private diverters, 1,000 ML water access entitlements, 100% delivered, SA Murray



Off-river typical bills for RIT and CIT customers fell in real terms in 2021–22

Central Irrigation Trust (CIT) and Renmark Irrigation Trust (RIT) are the 2 largest irrigation infrastructure operators in South Australia and are the only 2 for which the ACCC calculates typical off-river bills.

CIT is headquartered in Barmera and supplies 4,161 customers in 12 irrigation districts in the Riverlands region of South Australia using pressurised systems. In 2021–22, CIT delivered 110,690 ML of water to its customers. This was 105% of the volume of its water access entitlement (105,352 ML).[142]

RIT is headquartered in Renmark and uses over 140km of pressurised pipelines to supply 1,247 customers in the Renmark irrigation district. In 2021–22 RIT delivered 33,172 ML of water or 92% of its water access entitlement volume of 36,005 ML to its customers.

For 2021–22, the ACCC's typical bill analysis for:

- CIT assumes one irrigator located in one of the CIT districts other than Golden Heights or Sunlands with irrigation rights of 250 ML and receiving either a high, medium or low pressure service.[143] It assumes that for each typical bill the irrigator has an irrigation connection on the property and is supplied with irrigation water proportionally at 65% off-peak and 35% peak

141 South Australian Department of Environment and Water (2020), Murray–Darling Basin Regulated Water Charges, accessed 4 May 2023. The Board for SA River Murray is the Murraylands and Riverland Landscape Board

142 CIT had a useable water allocation which was 116,628 ML across their 12 irrigation districts. Of this volume 104,492 ML was used during 2021–22 or 90% of the useable water allocation.

143 Golden Heights and Sunlands are high lift high pressure services and the access charges are high for these irrigation districts. Berri, Chaffey (Ral Ral), Cobdogla, Kingston, Lyrup, Moorook, Waikerie are low pressure, Caddell and Mypolonga are medium pressure and Loxton is medium-high pressure. This information is in CIT's schedule of charges.

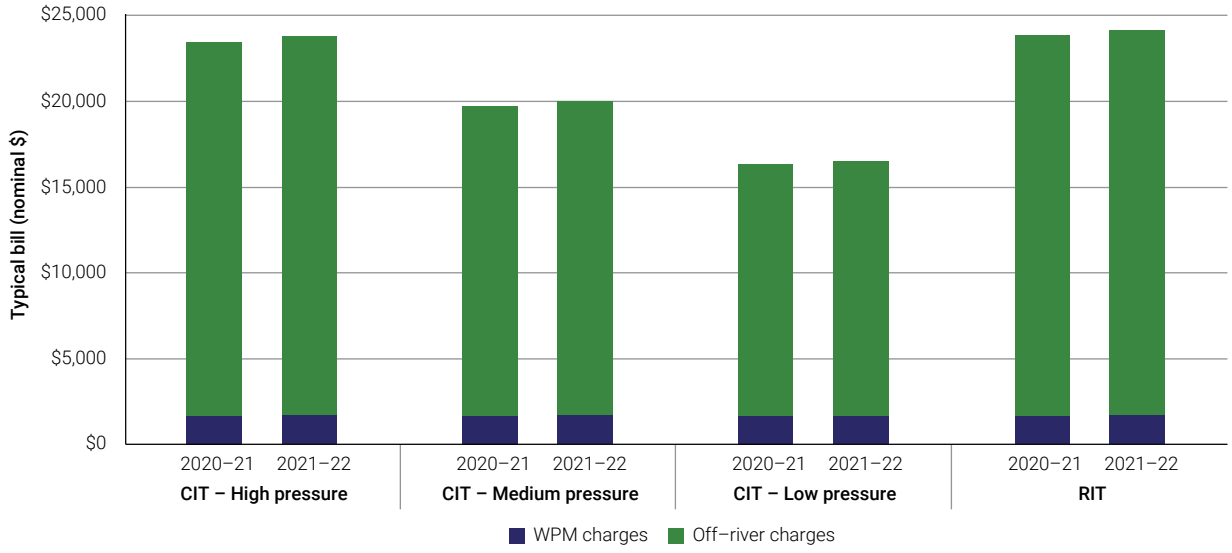
times.[144] A CIT typical bill includes a fixed irrigation service charge (per ML of water delivery rights held), a fixed landscape water levy (levied per ML of irrigation rights held), a variable peak water consumption charge (per ML of water delivered in peak period) and a variable off-peak water consumption charge (per ML of water delivered in off-peak period).

- RIT assumes one irrigator with irrigation rights of 250ML and has an equivalent farm size of 26.94 hectares. The irrigation rights are converted to farm size because RIT levies its access charges based on farm size in hectares. The conversion rule is 9.28 ML per hectare. It assumes that the irrigator receives a low-pressure service and has an irrigation connection on the property – meaning no drainage charges apply. A RIT typical bill includes a fixed access charge (per rated hectare per annum), a fixed landscape board levy (per ML of irrigation rights held) and a variable water delivery fee (per ML of water delivered).

Chart 5.2 shows that the typical off-river bills calculated for both CIT and RIT rose marginally in nominal terms in 2021–22. The greatest increase in the 2021–22 typical bill was for the CIT – High pressure network which increased by 1.5%.

It further shows that more than 90% of the typical bills calculated by the ACCC for RIT and CIT comprised charges that reflected the cost of operating these operators' off-river (pressurised) irrigation networks. The remaining proportion of the typical bills reflects the Natural Resource Management water levy (Division 2).

Chart 5.2 Typical off-river infrastructure operator bills (nominal $), 250 ML irrigation rights, 100% delivered, CIT and RIT, by charge component



144 CIT's schedule of charges states that customers with an irrigation connection are not liable for any specific drainage charges (all districts except for Sunlands). The ACCC's typical bill assumes the customer has an irrigation connection and is not liable for a drainage charge.

Water delivered, transformations, terminations and trade in RIT and CIT

Table 5.1 shows that the volume of water delivery rights traded or terminated was a very low percentage of the volume of rights on issue (0.3% combined). The volume of irrigation right traded or transformed was also very low (around 4% together).

Table 5.1 Water delivered, water allocation and water delivery rights trade, transformation and termination volumes, CIT, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered (excluding conveyance)	115,467	110,690	-4	-
Water delivery rights				
Water delivery rights on issue	156,796	156,580	-0.1	-
Water delivery rights traded	-	338		0.1
Water delivery rights terminated or surrendered	174	246	41	0.2
Irrigation rights				
Irrigation rights on issue	103,280	101,025	-2	
Irrigation rights traded	893	1,657	86	1.6
Irrigation rights transformed	1,357	2,119	56	2.1
Water allocation trade				
Into	21,242	19,310	-9	-
Out of	16,033	10,157	-37	-
Within	28,974	31,424	8	-

Table 5.2 shows that RIT delivered almost the same volume of water to customers in 2021–22 and 2020–21. No water delivery rights were traded in 2020–21 or 2021–22, whilst 2% of irrigation rights on issue in RIT was transformed in 2021–22.

Table 5.2 Water delivered, water allocation and water delivery right trade, transformation and termination volumes, RIT, 2020–21 and 2021–22

	2020–21 (ML)	2021–22 (ML)	Change (%)	Of rights on issue in 2021–22 (%)
Water delivered (excluding conveyance)	33,268	33,172	-0.3	
Water delivery rights[145]				
Water delivery rights on issue	45,189	45,131	-0.1	
Water delivery rights terminated or surrendered	0	58		0.13
Irrigation rights				
Irrigation rights on issue	33,495	32,836	-2	
Irrigation rights traded	192	269	40	0.8
Irrigation rights transformed	69	650	842	2.0
Water allocation trade				
Into	5,744	4,979	-13	
Out of	7,946	6,356	-20	
Within	7,249	4,150	-43	

SA Water charges levied on its transportation customers are the most expensive in the Basin

SA Water is a statutory corporation owned by the South Australian government. It supplies water, treats sewage and recycles wastewater in South Australia. Most of SA Water's business relates to urban water supply activities, which the ACCC does not monitor.[146] However, SA Water also delivers water to BIL under an individually negotiated non-standard transportation agreement, and some irrigation customers in the Clare, Eden and Barossa valleys.[147]

The Essential Services Commission of South Australia (ESCOSA) regulates SA Water's revenue and service standards, including imposing a revenue cap. However, the revenue cap only applies to potable water and sewerage services provided by SA Water.[148] Given that regulated assets are used to provide water transportation services, SA Water applies 10% of the income it receives from its water transportation services as revenue that is subject to the revenue cap imposed by ESCOSA.[149]

145 RIT's water delivery rights are in hectares. To convert to ML the hectares are multiplied by 9.28 ML per hectare.

146 See section 91(3) of the *Water Act 2007 (Cth)*.

147 SA Water (2023), Third party access to infrastructure, accessed 7 July 2023.

148 ESCOSA's price determinations sets four-year revenue caps for drinking water retail services and sewerage retail services and specifies pricing principles for excluded retail services. SA Water and the South Australian Government are responsible for setting specific prices (such as supply and usage charges for residential and non-residential customers) however, those prices must comply with the Commission's allowed revenues, accessed 11 May 2023.

149 See: ESCOSA's 2020 regulatory determination: Reasons for decision, section 4.1.2.3 explains that a 'mechanism allows SA Water's drinking water and sewerage customers to share the benefits of those commercial opportunities with SA Water. It deducts 10 percent of any such forecast non-regulated revenues from the relevant drinking water or sewerage revenue caps. Ten percent of revenue was determined as a reasonable estimate of the profit earned by SA Water from those services. SA Water has forecast non-regulated revenue under this adjustment mechanism of approximately $10 million per year in the SAW RD20 period, which results in a forecast deduction of approximately $1 million per year. The adjustment impacts drinking water revenues only, as the relevant assets are for drinking water services, accessed 11 May 2023.

ESCOSA also oversees a conciliation and arbitration regime for the resolution of any disputes in relation to access to SA Water's water delivery infrastructure.[150]

In 2020–21, SA Water published the charges it levies on BIL and its transportation customers in the Barossa, Clare and Eden valleys for the first time.[151] SA Water offers a peak transportation service (between 1 November and 31 March) to the Clare valley only, off and peak transportation services (between 1 April and 31 October) to the Barossa, Clare and Eden valleys.

The transportation charges levied by SA Water are substantially higher than any other regulated water charges monitored by the ACCC. This reflects the cost of transporting water significant distances from the river Murray to these customers. These customers also receive potable water (though the water is used for irrigation, usually viticulture).

SA Water's charges depend on both the annual volume of water that the customer agrees to take and the actual volume delivered.

Clare valley peak transportation service

The Clare valley water supply scheme brings filtered water from the River Murray for the purposes of municipal water supply and irrigation (predominantly for wine grapes).

Between 1 November 2021 and 31 March 2022, SA Water levied a 'transportation charge' of $1,790 per ML (subject to 60% minimum transportation charge), and a quarterly supply charge of $68.60 ($274.40 per year) for its Clare valley peak transportation service.

SA Water's 2021–22 schedule of charges for its peak water transportation service provides 2 examples of how its peak transportation charges were applied.

1. An end user agrees to an 'agreed volume' of 1 ML of water but only had 0.5 ML delivered during the year. The minimum transportation charge was 60% of $1,790 = $1,074 to have this 0.5 ML delivered (equating to $2148 per ML), plus GST.[152]
2. An end user agrees to an 'agreed volume' of 2 ML of water but only has 1.5 ML delivered. The minimum transportation charge is 60% of $3,580 ($1,790 multiplied by 2) = $2148. The transportation charge for water delivered is 1.5 multiplied by $1,790 = $2,685. As the transportation charge for the water volume of water delivered was higher than the minimum transportation charge, this ($2,685) is the amount that would have been payable by the customer ($1,790 per ML, plus GST).

Off-peak transportation service for the Barossa, Clare and Eden valleys

Between 1 April 2021 and 31 March 2022, SA Water's off-peak charges for its water transportation service to the Barossa, Clare and Eden valleys was a 'reservation fee' of $110 per ML of agreed volume, plus a 'consumption fee' $1,307.90 per ML of water delivered to the customer. The consumption fee is subject to a minimum transportation fee, which is the agreed volume divided by 3 multiplied by the consumption fee.

150 Part 9A of the *Water Industry Act 2012 (SA)*, which commenced on 1 July 2016 provides a negotiate/arbitrate framework for third party access to water infrastructure or sewerage infrastructure and infrastructure services. See ESCOSA, Third party access, accessed 5 May 2023.

151 SA Water (2023), Third party access to infrastructure, accessed 4 May 2023.

152 None of the typical bills calculated by the ACCC include GST. However, the charges listed on SA Water's schedule of charges include GST.

Appendix A to SA Water's schedules of charges for its 2021–22 off-peak transportation service provides 2 examples of how off-peak transportation charges are applied. These examples are below:

1. The customer has an agreed volume of 20 ML but has only 2 ML of water delivered. The agreed volume is divided by 3 to calculate the minimum transportation volume (6.67 ML). This is then multiplied by the consumption fee ($1307.90) to calculate the minimum transportation fee ($8,719.80). This is then added to the reservation fee ($110 per ML of agreed volume (20 ML) = $2,200). Therefore, the customer pays $10,919.80 ($8,719.80 + $2,200) to have 2 ML of water transported in the off-peak season. This equates to $5,459.88 per ML of water the customer had delivered.
2. The customer has an agreed volume of 20 ML and had 15ML delivered. As above, the minimum transportation volume is 6.67 ML and the minimum transportation fee is $8,719.80. As the customer had 8.3 ML delivered above the minimum transportation volume (6.67 + 8.33 = 15), the customer's additional consumption fee is $10, 894.80 (8.33 multiplied by $1,307.90). As above, the reservation fee is $2200. The customer therefore pays $33,094 to have 15 ML of water delivered (2,206 per ML).

If the customer had all of their agreed volume (20 ML) delivered, this would be multiplied by the consumption fee (20 x $1307.90 = $26,158), plus the reservation fee of $2,200 ($28,358 to have 20 ML of water delivered), equating to $1,417.90 per ML (excluding GST).

SA Water charges levied on BIL reflect BIL's capital contribution towards upgrading SA Water's infrastructure

The charges levied by SA on BIL are cheaper than the charges levied on its other transportation customers. BIL made a capital contribution of more than $13 million to SA Water's infrastructure and this allowed SA Water to upgrade its infrastructure to transport BIL's required volume and maintain its services to other customers.[153] The ACCC notes SA Water transports a large volume of water to BIL (11 GL annually).[154]

The schedule of charges for 2021–22 shows that SA Water levies an annual fixed charge of $2,967,229 per 11 GL, which equates to $269.75 per ML if 11 GL is delivered. This is in addition to a variable charge of $240.50 per ML of water delivered. To have 11 GL of water delivered BIL would pay $5,612,729 or $510 per ML.

BIL's charges reflect the charges levied on it by SA Water, its own operating costs and the cost of the water

The charges that BIL (an irrigation infrastructure operator) levies on its customers reflect the charges levied on it by SA Water, its own operating cost, as well as cost of the water itself.[155] The ACCC considers that as BIL uses SA Water's infrastructure to extract water from the River Murray to the connection point between SA Water and BIL's infrastructure, the SA Water charges levied on BIL are

153 SA Water (2022) Barossa Infrastructure Limited (BIL) schedule of charges, accessed 4 May 2023. The schedule for 2021–22 was no longer live on SA Water's website at the date of publication of this report. However, SA Water's 2022–23 schedule of charges for BIL states: "BIL has made capital contributions to SA Water in excess of $13 million to enable water transportation."

154 Barossa Infrastructure Limited (2023), About Us, accessed 25 May 2023.

155 BIL's 2022 Annual Report states that: BIL 'holds a mix of [water access] entitlements that are owned, on long term leases and forwards, with temporary allocations purchased as needed to meet varying customer demands. The mix of entitlements is also spread over several trading zones on the River Murray, with the majority from South Australia … Our allocation purchases, along with 4.6 GL of water on long term leases and forwards, resulted in a total cost of water leases for the financial year of $1.7 million, considerably down on the $2.5 million for 2020/21 and $4.98 million for the year prior', accessed 7 June 2023.

network operations charge under rule 9A of the water charge rules and can therefore be included in BIL's general fees.[156]

BIL levied an 'off peak water use charge' of $1,020 per ML on its customers in 2021–22. A component of this is attributable to a pass through of SA Water's infrastructure charges. Other charges, including an infrastructure charge, are also payable by BIL customers depending on the specifics of their agreement with BIL.[157] These charges are much higher than charges levied by other operators in the Basin. The next highest is LMW, which, for example, levied charges totalling around $222 to have one ML of water delivered in its Robinvale district in 2021–22.[158]

Water Planning and Management revenue and charges in South Australia

In 2021–22, South Australia's total water planning and management (WPM) revenue was $10.5 million. The majority of this ($9.0 million) comes from the Division 2 Natural Resources Management Levies. The rest is from various transaction charges such as water licence fees and application and permit fees.

In 2021–22, South Australia's total water planning and management costs increased in nominal terms by 13% to $44.4 million. The increases were driven primarily by the increase in costs associated with floodplain infrastructure operations and an increase in the state contribution to the MDBA. South Australia's overall water planning and management cost recovery has declined to 24% in 2021–22 after peaking at 28% in 2019–20.

Table 5.5. Water planning and management revenues and costs in real terms– SA Department for Environment and Water ($ million 2021–22)

	2017–18	2018–19	2019–20	2020–21	2021–22
WPM revenues	10.3	10.5	11.2	11.0	10.5
WPM costs	44.1	40.1	40.4	41.0	44.4
Cost recovery	23%	26%	28%	27%	24%

156 Under rule 9A of the water charge rules, pass through charges can be combined into the operator's general charges if the charge fits within the definition of a 'network operations charges'. A network operations charges is an infrastructure charges and planning and management charges levied on an infrastructure operator (taking account of any discounts) on the basis of: (a) water access rights held or used by the operator specifically for the purpose of meeting distribution losses; or (b) infrastructure used by the operator to extract water from a watercourse or discharge water to a watercourse in the course of providing a service to the operator's customers. All other infrastructure and planning management charges are 'ancillary charges' and the operator must recover the charges from its customers by means of one or more separate charges in accordance with rule 9A. The ACCC has released guidance about how to comply with 9A of the water charge rules.

157 BIL shareholders have funded BIL's infrastructure. The original scheme in 2000 cost approximately $30 million, funded 1/3 by share purchase and 2/3 by a long-term bank loan. This was paid off in 2016. Subsequent expansions have followed this same arrangement. Customers pay an annual infrastructure levy to assist in paying off any loans and to provide funds for the purchase of River Murray water entitlements. The infrastructure levy applies to new customer water contracts on a volume basis and varies based on the cost of each expansion. The infrastructure levy is typically paid off over an 8 to 15-year period and once paid off no further infrastructure levies are payable on that water. See BIL (2023) About Us, accessed 5 May 2023.

158 For 1,000 ML of water access entitlements with 100% of that nominal entitlement to water delivered in 2021–22.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