ACT Government
Environment, Planning and Sustainable Development

OFFICIAL

BRIEF

To:	Deputy Director-General Environment, Water and Emissions Reduction	**Tracking No.:** 22/156006
From:	Executive Group Manager, Environment Heritage and Water	
Date	5 December 2022	
Subject:	Lodgement of annual reporting on water planning and management expenditure to the ACCC	
Critical Date:	15 December 2022	
Critical Reason:	To align with the Australian Competition and Consumer Commission's timeframes in lodging the ACT's annual report	

Purpose

To seek your agreement to lodge a response to the Australian Competition and Consumer Commission's (ACCC) annual information request on revenue and expenditure for water planning and management activities.

Recommendations

That you:

1. **Agree** to lodge the ACT's report on water planning and management activities (Attachment A) to the ACCC.

Agreed / Not Agreed / Please Discuss

2. **Sign** the ACT Certification page at Attachment B.

Signed / Not Signed / Please Discuss

Geoffrey Rutledge 8/12/22

DDG Feedback

Background

1. The ACCC annually requests water monitoring information from Murray-Darling Basin governments on the revenue raised from water fees and charges, and expenditure on water planning management activities. These requests for information are authorised under the *Water Act 2007* (Cwlth) (Water Act)

2. The ACT is subject to section 91 of the Water Act, with respect to regulated water charge rules. These rules relate to water fees and charges applied under the ACT *Water Resource (Fees) Determination 2021*; this includes the Water Abstraction Charge (WAC).

3. The purpose of the ACCC monitoring is to provide public transparency on regulated water charges, trends in termination and transformation of water access rights, water trade, and compliance with Water Charge and Water Market rules in the Murray-Darling Basin.

4. A formal request for water monitoring information was made by the ACCC on 13 October 2022 to the Environment, Planning and Sustainable Development Directorate (EPSDD), to respond on behalf of the ACT Government. The Government's consolidated response to the ACCC is due on 15 December 2022. The information requested by the ACCC covers the fees and charges for the 2021-22 financial year.

5. The coordinated response is provided at Attachment A for your agreement and to transmit to the ACCC. This report consists of: Table 1 – *Regulated Water Planning and Management Charges*; and Table 2 – *Water Expenditure Related to Planning and Management Activities*.

ACCC Water Monitoring Report

6. The ACCC publicly reports all information received in its annual Water Monitoring Report. The 2020-21 ACCC Water Monitoring Report is provided at Attachment C.

7. The report aims to provide a reconciliation of the revenue raised from fees and charges with the expenditure undertaken. The report also includes analysis on whether expenditure is consistent with the intended purpose of the charge, as per the water pricing principles under the National Water Initiative (NWI).

8. The ACCC provides commentary on its analysis of water management expenditure and revenue raised by the Basin governments, however, notes it does not have any powers to act.

ACT Water Abstraction Charge

9. The Water Abstraction Charge (WAC) was introduced in 2000, intended to recover catchment management costs, and to reflect the environmental cost of the extraction of water and the value of water as a natural resource (scarcity value).

    a. In 2006, an additional revenue (30 cents/kL) was added to the WAC to provide a return on the resource and to assist in managing the demand for water (Estimates 2006, Question on Notice 60).

10. The WAC is collected on volume of water abstracted and is increased annually as per other fees and charges under the *Water Resources Act 2007*. Funds are not hypothecated or allocated to specific water management activities or to Directorates.

Issues

11. The amount of revenue collected by the ACT from water charges in 2021-22 was $29.88 million. The expenditure for water management activities is reported as $11.81 million. This provides a difference of $18.07 million between revenue collected for water management activities and expenditure.

    a. In 2020-21, the ACT reported $31.19 million of revenue collected from water charges and $12.32 million of expenditure.

12. The reported expenditure represents cost recovery for water planning and management activities.

    a. The criteria provided at Attachment D guides the reported expenditure. It has been independently reviewed to confirm its consistency with the Water Pricing Principles and Water Charge Rules under the Water Act.

    b. Environmental externalities, associated with the WAC, is not reported and therefore will not allow full reconciliation of revenue and costs.

13. Your signature is required on the Certification page at Attachment B, to be provided to the ACCC with the reporting information at Attachment A.

Independent review of reporting on the Water Abstraction Charge

14. In August 2022, Cabinet agreed to establish the Office of Water and noted a program of priority reform activities; this included an action to improve accountability and transparency for current funding arrangements, specifically the WAC (22/159/CAB).

15. The Office contracted Slattery and Johnson to review the criteria being used to guide the ACT's reporting on expenditure of the WAC (Attachment D), review the reported expenditure (Attachment A), provide advice on cost reporting, and discuss strategic issues regarding current reporting on the WAC.

16. The review found that there is insufficient information to determine accuracy of reporting or provide transparency on the derivation of the WAC.

17. The environmental externality (cost) for the 2021-22 year was calculated to reconcile the revenue and cost. This environmental cost is estimated at $2.75 million for 2021-22. There remains approximately $15.3 million that is not able to be reconciled for reporting.

    a. The environmental cost is based on a method and cost value used by the ICRC in 2017, indexed by inflation to current year, and applied to the volume of water extracted (45.9 GL).

18. The value of the resource extracted within the ACT, using the annual average allocation price (2022) for the regulated Murrumbidgee resource downstream of Burrinjuck Dam, is estimated at $2.4 million. The inclusion of this value in reporting does not provide reconciliation of the WAC revenue and expenditure.

19. The scarcity value and the additional 30 cent kilolitre charge, indexed for inflation, is not in the Basin water charging objectives and principles, or the National Water Initiative Pricing Principles.

    a. In 2003, The Independent Competition and Regulatory Commission (ICRC) reviewed the appropriateness of the WAC and advised that to maintain the

constitutionality of the charge, the quantum of the charge should reflect discernable costs and not be levied for revenue raising.

20. Separate briefing will be provided to you on the strategic issues and proposed actions arising from the final review report; including, improved reporting and detailed independent review of the price setting for the WAC.

Financial Implications

21. There are no financial implications directly related to the ACCC reporting water planning and management activities.

Consultation

Internal

22. EPSDD Strategic Finance has reviewed and endorsed the financial report (EPSDD expenditure).

Cross Directorate

23. All ACT Government Directorates were requested for input to the report. Responses were cleared through the respective Chief Financial Officers.

24. The Environment Protection Authority provided information on the fees and charges, and expenditure costs for water compliance and enforcement.

25. Treasury was provided the consolidated response for comment and supported the report.

External

26. Nil.

Benefits/Sensitivities

27. The ACCC annual reporting highlights significant variance between revenue collected and expenditure on water planning and management activities over successive years.

28. EPSDD is leading the government's response to the Non-potable Water Review. High intensity water users (sporting clubs) are seeking ongoing concessions to improve water affordability. The variance being reported to the ACCC does not support the current price setting for the non-potable water WAC.

29. The Office for the Commissioner of Sustainability and Environment finalised its report on the state of lakes and waterways in the ACT in May 2022. This report raises concern on the effectiveness of water planning and policy implementation, and adequacy of resourcing. The report recommends the government publish an annual detailed breakdown of how the WAC revenue is expended.

Media Implications

30. Nil action proposed. The ACCC will publish their consolidated report in the second half of 2023. Basin governments have previously been provided an opportunity to review the report before it is published. EPSDD can prepare for any potential media at that time.

Signatory Name:	Bren Burkevics	Phone:	6207 8628
Action Officer:	Ryan Breen	Phone:	6207 8268

Attachment

Attachment A	ACT reporting on water planning and management (MS Excel file)
Attachment B	ACT Certification page
Attachment C	ACCC Water Monitoring Report 2020-21
Attachment D	Water Abstraction Charge cost framework

2021-22 ACCC WPM Information Request

ACT Environment, Planning and Sustainable Development Directorate

Table 2 - Water planning and management activities and expenditures

The ACCC has identified WPM activities carried out by your agency in 2021-22 and where possible has pre-filled the t
For existing or new WPM activities, please confirm the activity title and the NWI defined category in the green cells. Please enter the 2021-22 cost
For any new WPM activities not already listed, please provide details in the empty purple cells in the bottom part of t
Please provide a breakdown of total capital, operating and corporate costs either:
- by activity under question 2.1 d; OR
- for ALL activities under question 2.2.

	2.1 a. Please list the WPM Activities carried out by your agency in 2021-22.	2.1 b. Please select the NWI defined category that this activity primarily relates to	2.1 c. Activity cost 2020-21	2.1 c. Activity cost 2021-22
			$'000	$'000
2.1	Water Policy	Water reform strategy and policy	$ 1,475.4	$413.00
	Stormwater Maintenance	Water management	$ 6,645.0	$2,095.60
	Waterwatch	Water monitoring & evaluation	$ 82.3	$ 476.00
	Molonglo 3 Infrastructure - Deep Creek Pond (concept design)	Water management	$ 1,077.3	$ 1,581.80
	ACT Healthy Waterways Asset Maintenance (TCCS Assets Only)	Water management	$2,940.10	$1,423.50
	New WPM Activities for 2021-22			
	Conservation Research - waterway monitoring and evaluation	Water monitoring & evaluation		$ 215.00
	Hydrometrics and water quality monitoring	Water monitoring & evaluation		$ 348.00
	Healthy Waterways - water quality improvement assets	Water management		$ 3,724.00
	Healthy Waterways - planning and program delivery	Water planning		$ 1,240.00
	Water compliance - EPA	Water administration and regulation		$ 297.57
		Total Cost of WPM Activities above	**$ 12,220.1**	**$ 11,814.5**
	If you have not answered question 2.1 d, please indicate what proportion	Capital Costs	$ 1,077.3	$ 3,724.0
		Operating Costs	$ 11,241.1	$ 8,090.5

2.2	If you have not answered question 2.1 d), please indicate what proportion (either as a percentage or a dollar amount) of WPM activity costs were:	Corporate Costs		
		Total of Cap/Op/Corp categories	**$ 12,318.4**	**$ 11,814.5**
		Difference between cost totals:	**$ 98.3**	**$ -**
		Check on cost totals: If there is a discrepancy in cell above between sum of costs of WPM activities and sum of capital, operating and corporate components, please check calculations or explain.		

Operator notes to the ACCC: *Please indicate which question(s) the comment(s) relate to.*	

Options for 2.1b

Water reform strategy and policy

Water planning

Water management

Water monitoring & evaluation

Information management & reporting

Water administration & regulation

Water industry regulation

following table. for each WPM activity under question 2.1 c. the list below
2.1 d. **Breakdown between capital, operating and corporate costs**. *Please answer this question (for individual items), or question 2.2 (totals).*
Operating
Operating
Operating
These costs and capitalised as part of inventory for the SLA's Whitlam development
Operating
Operating
Operating
Capital
Operating
Operating
[redacted]

2021-22 ACCC WPM Information Request

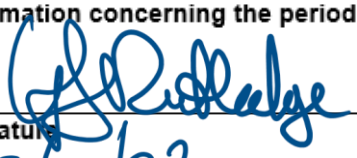
ACT Environment, Planning and Sustainable Development Directorate

Table 3 - Statement of executive responsibility

Please provide a signed copy to the ACCC (an electronic version is adequate)

I, Geoffrey Rutledge, am an authorised agent in my capacity as Deputy Director-General, Environment, Water and Emissions Reduction of the Environment, Planning & Sustainabile Development Directorate, having the appropriate authority to verify and supply information to the Australian Competition and Consumer Commission in meeting the Australian Competition and Consumer Commission's functions under the *Water Act 2007*.

In my opinion, the information provided to the Australian Competition and Consumer Commission presents an accurate and fair representation of the ACT Government's activities and compliance information concerning the period 1 July 2021 to 30 June 2022.



Signature

8/12/22

Date

AUSTRALIAN COMPETITION & CONSUMER COMMISSION

Water monitoring report

2020–21

October 2022

accc.gov.au

Cover photo: Coleambally infrastructure – channels.

Source: Courtesy Coleambally Irrigation.

Australian Competition and Consumer Commission
23 Marcus Clarke Street, Canberra, Australian Capital Territory, 2601

ACCC 11/22_22–27

www.accc.gov.au

Contents

Abbreviations

3IP	Industry Irrigation Improvement Program
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACL	Australian Consumer Law
ACT	Australian Capital Territory
Basin Plan	Murray–Darling Basin Plan
CCA	*Competition and Consumer Act 2010* (Cth)
CIT	Central Irrigation Trust
CPI	consumer price index
DELWP	Department of Environment, Land, Water and Planning (Vic)
DoR	Department of Resources (Qld)
DPIE	Department of Planning, Industry and Environment (NSW)
DRDMW	Department of Regional Development, Manufacturing and Water (Qld)
ESCV	Essential Services Commission Victoria
FMID	First Mildura Irrigation District
GL	gigalitre (one billion litres)
GMID	Goulburn–Murray Irrigation District
GMW	Goulburn–Murray Water
GS	general security
HP	high pressure
HPID	Hay Private Irrigation District
HRWS	high reliability water share
HS	high security
IIO	irrigation infrastructure operator
IO	infrastructure operator
IPART	Independent Pricing and Regulatory Tribunal of New South Wales
JWSS	Joint Water Supply Scheme
KL	kilolitres
LMW	Lower Murray Water

LP	low pressure
MDB	Murray–Darling Basin
MDBA	Murray–Darling Basin Authority
MI	Murrumbidgee Irrigation Limited
MIL	Murray Irrigation Limited
ML	megalitre (one million litres)
MP	medium pressure
NRAR	Natural Resources Access Regulator (NSW)
NWI	National Water Initiative
off-river IO	off-river infrastructure operator
on-river IO	on-river infrastructure operator
PIIOP	Private Irrigation Infrastructure Operators Program (NSW)
QCA	Queensland Competition Authority
RFI	request for information
RIT	Renmark Irrigation Trust
SARMS	South Australian River Murray Sustainability Program
SBIEG	Small Block Irrigators Exit Grant
SDL	sustainable diversion limit
SDLAM	sustainable diversion limit adjustment mechanism
SMP2	Sunraysia Modernisation Project 2
VWAP	volume weighted average prices
WAC	water abstraction charge
WAE	water access entitlement
WAL	water access licence
WAMC	Water Administrative Ministerial Corporation (NSW)
WAR	water access right
Water Act	*Water Act 2007* (Cth)
WCR	Water Charge Rules 2010
WDR	water delivery right
WMI	Western Murray Irrigation Limited

WPM	water planning and management
WSS	water supply scheme

Glossary

Basin Plan	A high level framework on which the Australian Government and Basin states agreed, and that sets standards for the management of the Murray–Darling Basin's water resources in a coordinated and sustainable way in collaboration with the community. Officially known as the Basin Plan 2012.
Basin Plan Water Trading Rules (BPWTR)	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 are enforced by the Murray–Darling Basin Authority.
Basin states	States and territories that reside partly or wholly within the MDB – New South Wales, Victoria, Queensland, South Australia and the ACT.
Basin state agencies	Basin state departments and water authorities.
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).
carryover	Arrangements that allow water entitlement holders to hold allocated water in storages so it is available in subsequent years.
conveyance water	Water required primarily to operate regulated rivers and utility supply networks to enable the delivery of water.
gravity fed irrigation system	An irrigation system comprising channels and/or pipes that relies on the movement of water due to the force of gravity.
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 (IO)	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.
irrigation infrastructure operator (IIO)	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 IIO 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.
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.
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 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.
regulated water charge	A water charge to which the Water Charge Rules 2010 apply. See s 91 of the *Water Act 2007* (Cth) for a full definition.
southern connected Murray–Darling Basin	Refers to the southern Murray–Darling Basin catchments that are hydrologically connected and 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.
the Act	*Water Act 2007* (Cth)
total network access charge	Amount on which the termination fee multiple is applied to calculate a maximum termination fee. It is the sum of all amounts that would have been payable for access to an operator's irrigation network by an irrigator for a full financial year if termination or surrender had not occurred, excluding: ▪ any amount for the amount of water actually delivered to the terminating irrigator (that is, variable irrigation network charges) ▪ any amount for the storage of water ▪ connection/disconnection fees ▪ any amount that exceeds the cost of providing irrigators with access to an operator's irrigation network ▪ fees under ACCC approved contracts.
tradeable water right	One of: (i) water access rights (ii) water delivery rights (iii) irrigation rights.

transformation	Process by which an irrigator permanently transforms their entitlement to water under an irrigation right against an IIO into a water access entitlement held by the irrigator (or anybody other than the IIO), thereby reducing the volume (for example, the share component) of the IIO's water access entitlement.
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 a water right held, while a variable volumetric charge is a charge based on the volume of the right that is used in a particular manner.
water access entitlement	Perpetual or ongoing entitlement, by or under a law of a 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 (including through the establishment of a tagging arrangement).
water access right	Any right conferred by or under a law of a 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 allocation	Specific volume of water allocated to water access entitlements in a given water accounting period
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 IIO'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* (Cth). Also included are rules for water planning and management activities and terminating access to an IIO's irrigation network.
water delivery right (WDR)	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 (WMR)	Rules dealing with actions or omissions of an IIO that prevent or unreasonably delay transformation arrangements or trade of the resulting water access entitlement
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.

Key messages for 2020–21

Photo: Grape vines within Murrumbidgee Irrigation's network, New South Wales
Source: Courtesy Murrumbidgee Irrigation Limited

After 3 years of relative water scarcity, there was significant rainfall in 2020-21 across the Murray–Darling Basin. Substantial numbers of water access entitlement holders received their first allocation in 2 years. Total water delivered by infrastructure operators jumped significantly.

Higher water availability and allocations to water access entitlement holders resulted in irrigation infrastructure operators delivering 120% more water than in 2019–20.

Typical irrigator bills for 1 megalitre of water delivered in pressurised networks increased by just under 1% to $103 in 2020–21. In gravity fed networks, typical bills fell 2% to $60.

Termination numbers fell to 11 while volumes dropped 95% to just over 1 gigalitre – the lowest number and volume in 12 years of monitoring. The decline in terminations can be attributed to many operators finalising their network rationalisation programs and the dissipation of pent-up demand from irrigators exiting irrigation when the Basin Plan commenced.

Of 15 water-related stakeholder calls to the ACCC, 12 were complaints, and the rest (3) were enquiries from infrastructure operators about their obligations under the Water Charge Rules.

Under its drought rebate scheme, the NSW Government continued to waive fixed charges for general security entitlement holders and for some high security entitlement holders.

Monitoring makes regulated water charges transparent and helps enforce the Water Charge Rules. However, monitoring on its own cannot limit the exercise of market power

Snapshot of findings 2020–21

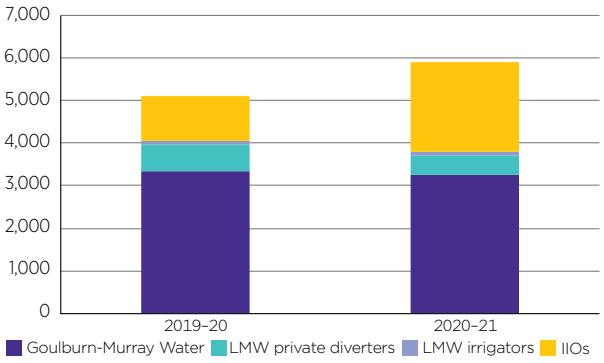
Off-river infrastructure operators' typical bills, average $/ML delivered

	Pressurised networks	Gravity-fed networks
Highest	$221 (Lower Murray Water)	$149 (Lower Murray Water)
Lowest	$65 (Central Irrigation Trust)	$15 (Eagle Creek)
Average	**$103**	**$60**

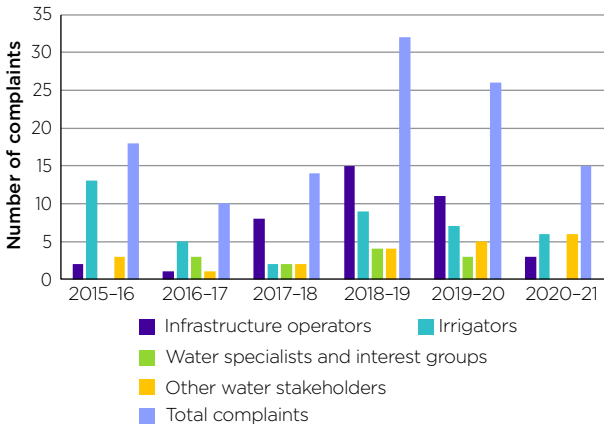
Higher water availability increased on-river infrastructure operator water deliveries by 86%

Gigalitres delivered	2019–20	2020–21
	3,495	6,510

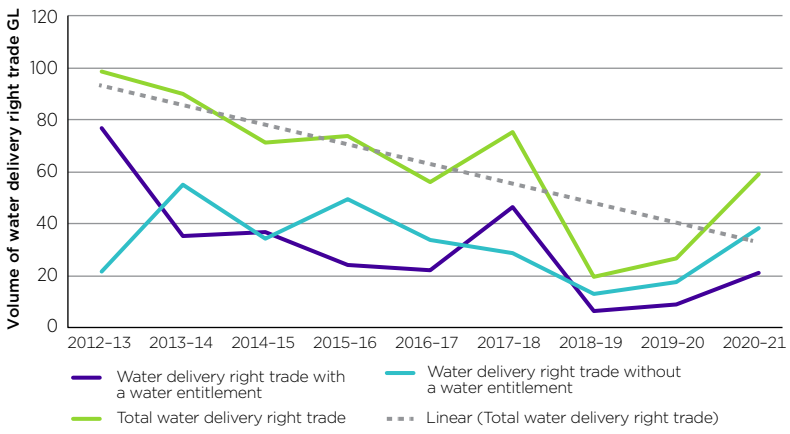
Infrastructure operators' customers in New South Wales and South Australia took advantage of much higher allocations to nearly double their allocation trade. Overall allocation trade increased by 16%.



Complaints and inquiries over the past 6 years have averaged around 19 per year



Water delivery right trade varied significantly over the period from 2012–13 to 2020–21 but generally declined



2020–21 Summary

ACCC's role in the Murray–Darling Basin

The ACCC is required to report on the results of its monitoring to the Australian Minister for Environment and Water.[1] This is the ACCC's 12th Water monitoring report.

The purpose of our monitoring is to inform the minister and stakeholders about regulated water charges, compliance with the Water Charge Rules 2010 (WCR) and the Water Market Rules 2009 (WMR) (collectively, the Rules), and transformation arrangements in the Murray–Darling Basin (MDB). To provide a more comprehensive picture of topics related to the Rules, we also monitor trends related to water deliveries, terminations of access to infrastructure operator (IO) networks, and trades of water allocations, irrigation rights and water delivery rights.[2]

The ACCC monitors these activities because IOs operate in geographically exclusive areas for water harvesting, storage, and delivery services, making it unlikely effective competition will develop. As a result, IOs are regarded as natural monopolies; they may have market power because they do not face any effective competition from other operators for water delivery services in the relevant region. The extent of that market power depends, in part, on how essential the IO's infrastructure is to those seeking to use it. As monopolies unconstrained by competition, IOs may limit their service levels. They may also under- or over-invest in their infrastructure and lack incentives to operate efficiently or to adopt innovative technologies and service models. Such actions could hamper productivity and lead to efficiency losses to the detriment of their customers. A lack of competition may also lead to higher prices, lower service quality and less innovation when compared with what could be expected in a competitive market.

Reporting of IOs' regulated water charges (including typical irrigator bills) helps to increase transparency. Our monitoring also allows for the release of data and information that would not otherwise be available to water market participants and other interested parties in the MDB. For example, the ACCC's monitoring improves consumer understanding by providing information about pricing practices and allows for comparisons against other networks. Ultimately, this information can promote more efficient allocation of resources among water users. However, monitoring has some limitations. It does not directly restrict operators from increasing prices or allowing service quality to decline. Further, the data collected does not allow us to assess whether monitored operators earn economic returns that are consistent with the degree of risks they face or whether they operate efficiently.

Wetter conditions led to increased water deliveries and allocation trade

After 3 years of significant drought and water scarcity, plentiful rainfall (influenced by a weak La Nina) returned to most parts of the MDB during 2020–21. Increased water availability led to total water allocations for all major water entitlement types finishing 2020–21 above historical averages.[3] As a result, water deliveries by irrigation infrastructure operators (IIOs) increased substantially (up 120% to around 3,238 gigalitres (GL)) compared with 2019–20 (1,472 GL). Total water allocation trade volumes reported to the ACCC by IIOs increased by 16% in 2020–21 to 5,892 GL.

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1 The reporting of the results is provided to the Minister in accordance with a 2009 agreement between the Minister and the ACCC – *Water Act, 2007* (Cth), ss 94(3) and 99(3).

2 Transformation arrangements relate to the process by which an irrigator permanently transforms their entitlement to water under an irrigation right against an IIO into a water access entitlement held by the irrigator (or anybody else), thereby reducing the share component of the IIO's water access entitlement. Termination is a process where an irrigator terminates or surrenders the whole or part of a right of access to an IIO's network, typically by terminating a water delivery right.

3 Westwood, T., Walsh, J. & Gupta, M., *Water market outlook August 2021*, ABARES Research Report 21.2, 2021, p 1, accessed 28 January 2022.

Transformation numbers fell to historically low levels

New South Wales and South Australian IIOs processed 96 transformation applications in 2020–21 (down 31% from 2019–20). This result was the lowest number of transformation applications reported to the ACCC since we commenced monitoring in 2009, despite the addition of Victoria's Goulburn–Murray Water (GMW), which also reported transformations in 2020–21.

The fall in transformation applications processed by IIOs was particularly marked in South Australia where the number fell 33% to 40. However, the volume of irrigation rights transformed by South Australian and New South Wales IIOs increased by 57% to 34 GL (the highest volume since 2015–16). The increase was driven by Murray Irrigation Limited, where the volume of transformations increased by 283% to 18 GL.

In 2020–21, the median total processing time for transformations in New South Wales was 61 days, 4 days more than 2019–20. The median time for South Australia was 12 days in 2020–21, 1 day less than in 2019–20. The longer processing times in New South Wales partly reflect the involvement of 2 NSW Government agencies in processing transformations. Only one government agency is involved in South Australia.

Termination numbers were the lowest since monitoring commenced

Termination occurs when an irrigator terminates (or surrenders) the whole or part of their right of access to an IO's network. The number and volume of terminations reported to the ACCC have trended down since 2009–10. The total volume of terminations decreased by 95% to 1.25 GL in 2020–21, the lowest volume since ACCC monitoring commenced.

IIOs that can effect transformation reported 11 terminations for 2020–21, down 31% from 2019–20, and the lowest number recorded since ACCC monitoring began. The Victorian IOs Lower Murray Water (LMW) and GMW reported terminations fell 90% to 8 in 2020–21. Terminations in joint water supply schemes increased from 1 to 2, though the volume terminated more than tripled to 185 megalitres (ML).

The decline in terminations can be attributed to many IIOs finalising government-funded network rationalisation programs, and an increased tendency to trade (rather than terminate) water delivery rights.

On-river operator typical bill increases were moderate, with a couple of exceptions

The ACCC calculates typical bills for on-river IOs in Queensland, New South Wales, and Victoria, and for private diverters in South Australia. In 2020–21, most on-river typical IO bills in the southern MDB increased by around 2% from 2019–20. In contrast, bills for Victorian private diverters in the Goulburn and Murray Basins fell by just over 9% and under 19% respectively, due to a significant decrease in entitlement storage fees after a pricing review by the Essential Services Commission Victoria (ESCV). Implementation of the ESCV's review of GMW also caused bills for the Bullarook system to increase by around 2%.

In the northern MDB, typical bills for New South Wales entitlement holders mostly increased by around 2%. The exception was high security bills in the Macquarie valley, which more than doubled when government fixed charges were reintroduced for this valley.

Changes in irrigation infrastructure operator typical bills were modest in 2020–21

The ACCC also calculates IIO typical bills for IIOs that hold over 10 GL of entitlements. The average typical irrigator bill (at 100% for 250 ML of water delivered) in pressurised networks across the MDB increased by under 1% to $25,763 ($103/ML). In gravity fed networks, the average typical bill decreased by nearly 2% to $14,982 ($60/ML). The higher average bill for pressurised networks reflects the higher capital costs associated with irrigation pipes and energy costs.

LMW continued to have the highest IIO typical bill in both pressurised and gravity fed systems. For 250 ML at 100% delivered, the typical bill for LMW's pressurised Robinvale network was $55,367 ($221/ML) and $37,181 ($149/ML) for the Mildura gravity fed network.

The lowest IIO typical bill continued to be for Eagle Creek Pumping Syndicate's gravity fed network at $3,785 ($15/ML), 75% less than the overall average for gravity fed networks.

The cost of delivering one megalitre of water showed significant variation across the Murray–Darling Basin

During 2020–21, the average typical irrigator bill per ML of water delivered for pressurised networks was $103, just under 1% above the cost in 2019–20. The average typical irrigator bill for gravity fed networks was $60/ML, 2% down from 2019–20.

Victorian pressurised systems average typical irrigator bill was $121/ML during 2020–21, 14% higher than those in New South Wales ($106/ML) and 45% higher than South Australian average bills ($83/ML). Within gravity fed networks in Victoria and New South Wales, the difference was significantly greater, with average typical bills 78% more in Victoria ($81/ML in Victoria and $46/ML in New South Wales).

Governments largely maintained spending on water planning and management activities while revenue collected dipped slightly

Basin state departments and water authorities undertake a range of water planning and management (WPM) activities to promote sustainable water use, maintain ecosystem health and minimise the impact of water extraction.

In 2020–21, WPM spending by the Basin states was flat with a rise of less than 1% while WPM revenue dipped by 3%. Basin states agreed under the National Water Initiative (NWI) to pursue cost recovery on a user pays basis for their WPM activities. However, data reported by Basin states has limitations that inhibit the measurement of this NWI initiative. Cost recovery for WPM activities, especially capital expenditure, may also take place over an extended period.

Complaints and enquiries declined

Complaints and inquiries to the ACCC about water related matters decreased from 26 in 2019–20 to 15 in 2020–21. This result may reflect that the Rules have been in effect for 11 years and the ACCC proactively assists IOs to understand their new obligations under the WCR.

During 2021, the ACCC engaged with 24 IOs regarding their obligations under the new schedule of charges requirements in the WCR. This work included providing feedback to IOs about how to amend their schedule of charges to comply with the WCR.

01

Increased rainfall, and cooler temperatures returned to most parts of the Murray–Darling Basin during 2020–21

Canola grown in Murrumbidgee Irrigation's network
Source: Courtesy Murrumbidgee Irrigation

1. Increased rainfall, and cooler temperatures returned to most parts of the Murray–Darling Basin during 2020–21

Key points

- Above-average rain in spring 2020 across the Murray–Darling Basin (MDB) and substantial rain in March 2021 in the northern MDB resulted in well above-average river flows.
- Total water storage volumes across the MDB were around 38% of capacity at the opening of 2020–21, increasing to 62% (13,722 gigalitres (GL) of a possible 22,258 GL) by the end of June 2021.
- With increased water availability, total allocations for irrigators increased during 2020–21 with all major water entitlement types finishing the year above historical averages. While allocations were higher, there was substantial variation in the timing of allocations.
- The Australian Government has appointed a principal advisor to develop a response to the ACCC's MDB water markets inquiry final report. Advice provided to the Australian Government in December 2021 outlined in-principle agreement and progress from the Basin states on 4 key reforms. The final roadmap is due in September 2022.

This chapter outlines the background weather conditions and allocations that occurred in the Murray–Darling Basin (MDB) during 2020–21. It also provides an update on the response to the ACCC's MDB water markets inquiry:

- Section 1.1 describes the climatic conditions in the MDB during 2020–21 and changes to water allocations.
- Section 1.2 provides an update on the MDB water markets inquiry and the progress with its recommendations.

1.1 Wetter conditions led to increased water allocations

1.1.1 Weather conditions led to above-average rainfall

After 3 years of significant drought and water scarcity, increased rainfall, and cooler temperatures (influenced by a weak La Nina) returned to most parts of the MDB during 2020–21.[1] Above-average rain in spring 2020 across the MDB and substantial rain in March 2021 in the northern MDB resulted in well above-average river flows.

Floodwaters from the March rain event arrived at the Menindee Lakes during May and by June 2021, had increased storage to 52%, the highest level in 4 years.[2] However, falls varied. Parts of the Victorian Murray and Goulburn systems received below-average rainfall while parts of the Murrumbidgee received substantially above-average falls.[3, 4]

1 Bureau of Meteorology, *Australia in the 2020–21 financial year*, 30 July 2021, pp 1, 5, accessed 7 February 2022.

2 Bureau of Meteorology, *Drought statement June 2021*, 7 June 2021, 7 February 2022.

3 Aither, *Water markets report, 2020-21 review and 2021-22 outlook*, 2021, p 11, accessed 12 December 2021.

4 For instance, towns near the headwaters of the Goulburn and Murray Rivers that received below-average summer falls included: Echuca – 62% of the long-term average; Shepparton – 73% of the long-term average; and Tatura – 80% of the long-term average.
Bureau of Meteorology, *Victoria in summer 2020–21: wetter and cooler than average*, 1 March 2021, accessed 28 February 2022.

Total water storage volumes across the basin were around 38% of capacity at the opening of 2020–21[5], increasing to 62% (13,722 gigalitres (GL) of a possible 22,258 GL) by the end of June 2021.[6] Total water availability was boosted due to a significant amount of water carried over from 2019–20. Although 2019–20 was a considerably dry year, carryover decisions were influenced by a then poor seasonal outlook for 2020–21.[7]

1.1.2 Water allocations increased during 2020–21

With increased water availability, total allocations for irrigators increased during 2020–21 with all major water entitlement types finishing the year above historical averages.[8] While allocations were higher, there was substantial variation in the timing of allocations.

Many general security (GS) water access entitlement (WAE) holders received allocations for the first time in 3 years. In the southern MDB, 600 GL more water was allocated at the opening of 2020–21 compared with the previous year.[9] New South Wales GS WAE holders in the Murray system received an opening allocation of 0% and closed the year at 50%. Murrumbidgee GS WAE holders received a 10% opening allocation and received full allocation in mid-January 2021.[10] In the northern MDB, the stronger water availability resulted in higher allocations, particularly to GS WAE holders who received allocations for the first time in 3 years (Table 1.1).

Table 1.1: Opening and closing allocations for northern New South Wales valleys

Valley	July 2020 allocation	June 2021 allocation
Macquarie	0%	68%
Upper Namoi	0%	100%
Lower Namoi	0%	91%
Peel	0%	77%
Gwydir	0%	58%
Border Rivers	0%	47%

Notes: Based on water allocation statements published and collected by the ACCC from the Department of Primary Industries and Environment-Water website.

NSW Department of Planning and Environment, Allocations, 2022, accessed 17 March 2022.

Increased water availability also saw Victorian water users generally receive a full allocation in 2020–21, in contrast to 2019–20. Victorian high reliability water shareholders (HRWS) in the Goulburn and Murray basins received opening allocations of 8% and 35% respectively and full allocations in mid-February 2021 and mid-November 2020 respectively.[11]

The increased allocations resulted in considerable increases in water delivered to and by IOs. The total volume of water delivered by on-river IOs increased by 86% on the 2019–20 volume, to 6,510 GL in 2020–21 while IIOs increased water delivered by 120% to 3,238 GL.

5 Murray–Darling Basin Authority, *Annual report 2019–20*, 2020, p 10, accessed 28 January 2022.

6 Murray–Darling Basin Authority, *Annual report 2020–21*, 2021, p 11, accessed 28 January 2022.

7 Westwood, T., Walsh, J. & Gupta, M., *Water market outlook August 2021*, p 1, ABARES, Research Report 21.2, Canberra, March. CC BY 4.0, accessed 28 January 2022.

8 Westwood, T., Walsh, J. & Gupta, M., *Water market outlook August 2021*, p 1, ABARES, Research Report 21.2, Canberra, March. CC BY 4.0, accessed 28 January 2022.

9 Aither, *Water markets report, 2020–21 review and 2021–22 outlook*, 2021, p 6, accessed 17 March 2022.

10 Based on fortnightly data collected by the ACCC: Resource Manager Northern Victoria, *Water allocation statements*, 2021, accessed 17 March 2022.

11 Based on fortnightly data collected by the ACCC: Northern Victoria Resource Manager, *Historical determinations*, 2021, accessed 18 February 2022.

1.2 A roadmap will outline implementation of the ACCC's Murray–Darling Basin water markets inquiry recommendations

1.2.1 The ACCC inquiry made a range of findings

The ACCC's final report into the MDB water markets inquiry was released on 26 March 2021.[12] The inquiry found significant deficiencies in current water trading arrangements, which meant many water users do not trust that markets and key institutions are fair and operating to the benefit of water users. Such disengagement can inhibit investment that would enable efficient agriculture production.[13]

The final report recommended developing a Basin-wide water market education program to assist current and potential market participants to better understand water products, and trading rules to confidently engage in water trading. The report also recommended creating a new water markets agency that would enforce new Basin-wide laws and would deal with harmful conduct and practices. Other recommendations included a code of conduct for water market intermediaries such as brokers and bans on market manipulation and stronger insider trading rules.

1.2.2 Principal advisor and advisory panel appointed to progress reforms

In October 2021, the Australian Government announced the appointment of Daryl Quinlivan AO as the principal advisor, supported by an advisory panel to progress reforms.[14] The advisor and panel were to examine the inquiry recommendations and provide advice on actions supported by Basin states that could be implemented quickly to restore confidence in water markets.[15] In December 2021, the principal advisor provided the Minister with a first tranche of advice, which included an update on an initial suite of implementation measures. The subsequent phased implementation plan or 'roadmap' for water market reform was due in June 2022 but the deadline was extended to September 2022 following the change of government.[16]

The December 2021 advice noted Basin states provided in-principle support for Commonwealth legislation to establish a Basin-wide mandatory water markets intermediaries' code. There was also in-principle support for introducing Commonwealth legislation to prohibit insider trading and market manipulation across the MDB. Basin state support was subject to whether the regulation should extend beyond the MDB and responsibility for compliance.[17]

12 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, March 2021, accessed 11 April 2022.

13 ACCC, *Murray–Darling Basin water markets need comprehensive and focused reform*, 26 March 2021, accessed 11 April 2022.

14 Members of the advisory group include Andrew Stoeckel, Dave Appels, Jenny McLeod, Peter Hendy, Phil Grahame, Richard Anderson, Rosalie Auricht and Stuart Armitage.
Department of Agriculture, *Meet the Principal Adviser and Advisory Group*, 2022, accessed 11 April 2022.

15 The advisory group was comprised of 8 members whose role is to advise the principal adviser on economics, water markets and anticipated impacts on proposed reforms on water users. Pitt, K., *Delivering fit-for-purpose Murray–Darling Basin water markets media release*, 25 October 2021, accessed 11 April 2022.

16 Department of Agriculture, *Water and the Environment, Scope of work: Murray–Darling Basin Water Market Reform – Development of Implementation Roadmap*, 2022, accessed 11 April 2022.

17 Quinlivan, D., *Murray–Darling Basin Water Market Reform – Development of Implementation Roadmap – December advice*, 2021, p 11, accessed 14 June 2022.

Basin states agreed to:

- collect and publish further trade data information including transaction agreement dates (or strike-date) and reasons for trading. New South Wales and Victoria have implemented changes to their electronic trade forms to collect information on strike dates while South Australia is currently investigating implementation of similar measures
- provide in-principle support to implement a Basin-wide water market education program
- remove the exemption of grandfathered tags from Basin Plan Water Trading Rule 12.23 at the next available opportunity.[18]

Basin states had also commenced a range of other initiatives implementing the ACCC's inquiry recommendations ahead of the final roadmap and the formal government response. These initiatives included:

- launching or improving online platforms to allow for better access to water trading information
- working towards improving the administration of interzone trade
- progressing work to address delivery risks through the 'capacity and delivery shortfall' project.

The roadmap was due to be provided to the Minister in September 2022.

18 Quinlivan, D., *Murray–Darling Basin Water Market Reform – Development of Implementation Roadmap – December advice*, 2021, pp 10–14, accessed 11 April 2022.

02

Transformations and terminations were at record lows in 2020–21

Main canal with an inline regulator
Source: Courtesy Murray Irrigation Limited

2. Transformations and terminations were at record lows in 2020–21

Key points

Transformations

- Some irrigation infrastructure operators (IIOs) hold a water access entitlement (WAE) on behalf of their customers, who in turn hold irrigation rights against the IIO.[19] To permanently trade water outside the irrigation network, irrigators can convert their irrigation right into a separate WAE through a process called transformation.
- During 2020–21, New South Wales and South Australian IIOs processed 96 transformation applications, down 31% from 2019–20. Additionally, Victoria's Goulburn–Murray Water (GMW) reported 9 transformations.
- Just under 34 gigalitres (GL) of irrigation rights were transformed (excluding GMW), up 57% from 2019–20, driven by transformations by Murray Irrigation Limited's customers.
- The median processing time for transformations in New South Wales in 2020–21 was 61 days, an increase of 4 days from 2019–20. In contrast, the South Australian median processing time was 12 days in 2020–21, 1 day less than in 2019–20.
- The significant decreases in transformations since 1 July 2009 can be attributed to the Australian Government ceasing water buybacks and the dissipation of the demand to transform irrigation rights that existed before the Water Market Rules 2009 commenced.

Terminations

- Termination occurs when an irrigator terminates (or surrenders) the whole or part of their right of access to an IIO's irrigation network. If an irrigator has surplus water delivery rights (WDRs) or wants to cease irrigation activities, the irrigator may seek to trade WDRs within their IIO network instead of terminating and paying termination fees.
- The total number of terminations reported dropped from 99 in 2019–20 to 21 (down 79%) in 2020–21. The total volume terminated reduced by 95%. This was partly related to the ending of GMW's Connections Project. IIOs in New South Wales and South Australia processed 11 terminations, down from 16 in 2019–20. This and the volume terminated were the lowest numbers reported by these operators since monitoring began.
- Since 2009, WDRs on issue recorded a net decrease of 2%. WDR trade volumes since 2012–13 have been variable and largely declining. But more recently, the volume of WDR traded in 2019–20 and 2020–21 increased by 37% and 121% respectively. Over the past 3 years, most WDR trade has been without a water entitlement.

IIO trade of allocations

- Allocation trade volumes reported by IIOs increased by 16% from 5,100 GL to 5,892 GL, reflecting increases in the Murrumbidgee and New South Wales Murray areas. The increases reflected greater water availability, following the breaking of the drought.
- New South Wales IIOs were net exporters of water allocation in 2020–21 and have been for the past 2 years. Victorian IIO customers were also net exporters, while South Australian IIOs were net importers, likely reflecting the water needs and willingness to pay of the dominant horticultural crops grown in the region.

19 Transformations are most common in New South Wales and South Australia. In contrast, in Victoria and Queensland, irrigators typically hold a WAE directly, so the concept of transformation is usually not relevant in these jurisdictions.

This chapter reports on changes and trends in transformations, terminations and irrigation infrastructure operators' (IIOs) allocation and water delivery right (WDR) trade activity:

- Section 2.1 covers transformation data reported by IIOs, including processing times.
- Section 2.2 reports on termination activity in the irrigation networks of selected IIOs.
- Section 2.3 covers water allocation trade reported by IIOs (that is, allocation trade relating to water access entitlements (WAE) held by the IIO).
- Section 2.4 discusses WDR trade during 2020–21 and trends since 2012–13.

Our monitoring of transformations, processing times, terminations and associated fees helps identify where barriers to trade may persist. IIOs may have incentives to prevent or reduce these activities occurring. Together, transformation and termination can mean less water is delivered within a network and IIOs may ultimately end up with fewer customers contributing to the costs of running the network. This year's monitoring did not identify any measures taken by IIOs to prevent or unreasonably delay or increase the costs to irrigators wanting to trade, transform or terminate.

2.1 Numbers of transformations were at an historical low in 2020–21

Transformation is a process where an irrigator converts an irrigation right (that is, a right to receive water held against an IIO) into a separate WAE held by the irrigator or some other person. Transformation reduces the volume of the WAE held by the IIO and may result in water moving (by being traded) outside the IIO's irrigation network.

The holder of the transformed entitlement can trade their entitlements, or the water allocated to it, outside the irrigation network without needing IIO approval. However, they need to trade their allocation back to the IIO's licence if they wish to keep using the water within the IIO's network. Transformations are generally concentrated in New South Wales and South Australia because irrigators in Victoria and Queensland usually hold a WAE directly. However, Goulburn–Murray Water (GMW) has reported transformations (of contractual rights to receive water) previously and for the past 2 years.

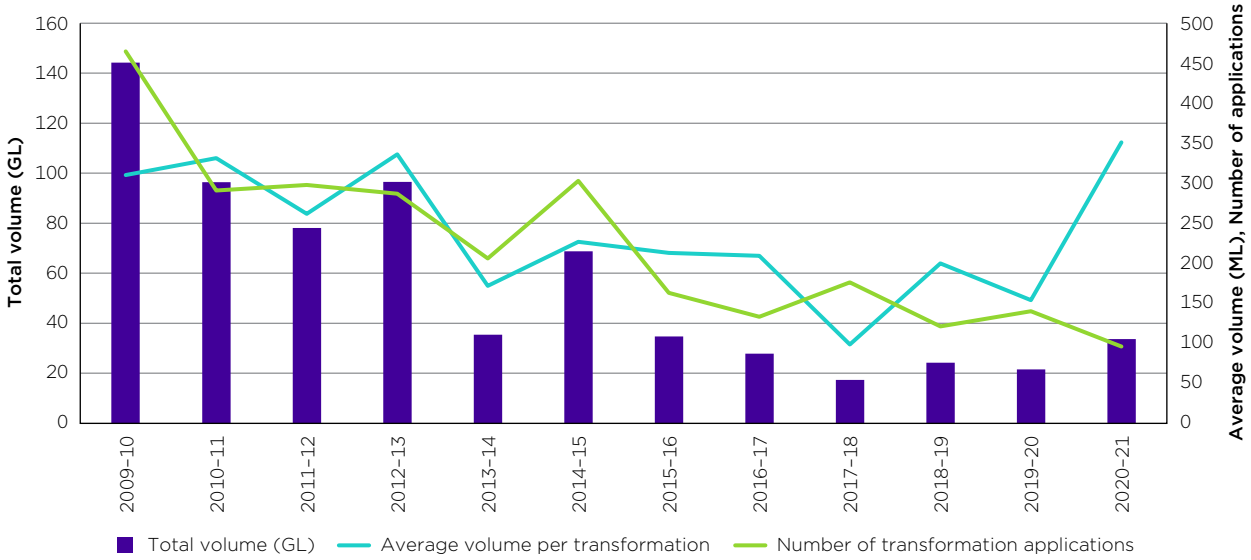
2.1.1 Transformation applications fell overall in 2020–21, but transformation volumes increased in South Australia.

New South Wales and South Australian IIOs reported 96 transformation applications, down 31% from 2019–20 (Chart 2.1). This is the lowest number of transformations reported by these operators since monitoring began. South Australia recorded the highest fall, where the number of applications fell by 33% to 40. Total volume transformed during 2020–21 was 34 GL, up 57% from 2019–20.

The increase in volume transformed was mainly driven by transformations by Murray Irrigation Limited (MIL) customers, who transformed 18 GL, an increase of 283% on MIL's 2019–20 volumes. MIL's transformations constituted approximately 92% of the volume transformed by South Australian and New South Wales IIOs.

The reasons for the decline in numbers but increase in volume transformed are not apparent from the data reported to the ACCC, because IIOs do not generally collect information from their customers on reasons for transforming. In any case, reasons are likely to vary depending on the transforming customer's particular circumstances.

Chart 2.1: Number and volume of transformations reported in New South Wales and South Australia, 2009–10 to 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

Note: Data relates to transformations in New South Wales and South Australia, for all irrigation infrastructure operators that can give effect to transformations. Chart 2.1 does not include Goulburn–Murray Water who reported 9 transformations of licences into statutory water access entitlements.

Since 2009–10, the combined number of transformations for the 3 largest IIOs (Murrumbidgee Irrigation (MI), Coleambally Irrigation Cooperative Limited (Coleambally) and MIL) comprised around 35% of all transformations reported by New South Wales and South Australian IIOs. Their reported combined volume transformed comprised 78% of all transformation volumes over the same period.

Since 2009–10, transformation numbers and volumes have mostly trended down, which can be attributed to several factors. These include the Australian Government ending water buybacks in 2015 and the dissipation of pent-up demand to transform that existed before the Water Market Rules 2009 commenced.

Goulburn–Murray Water reports more transformations in 2020–21

Generally, most transformations occur in New South Wales and South Australia although irrigators in Queensland and Victoria occasionally transform irrigation rights. In 2020–21, GMW reported 9 transformations, totalling 977 megalitres (ML) of high reliability water share and 533 ML of low reliability water share (up from 4 transformations, with 188 ML of volume in 2019–20).[20]

GMW advised all transformations were private customers from syndicates or private water schemes that moved over to the new Mitiamo and District Water Supply District.[21] GMW's transformations are not included in Chart 2.1.

2.1.2 More irrigators transformed less of their entitlements during 2020–21

Some irrigators transform 100% of their irrigation right. However, most transform only a portion to give them flexibility around how much they retain for use on their property and how much they trade. Over the past 11 years, most irrigators in New South Wales and South Australia tended to transform either a very high portion (that is, above 90%) or a very small portion (that is, below 10%) of their irrigation right, a trend that remains evident this year. Since monitoring began in 2009–10, around 18% of all

20 Before 2019–10, GMW reported 254 ML of transformations in 2012–13 and 1,645 ML in 2010–11.

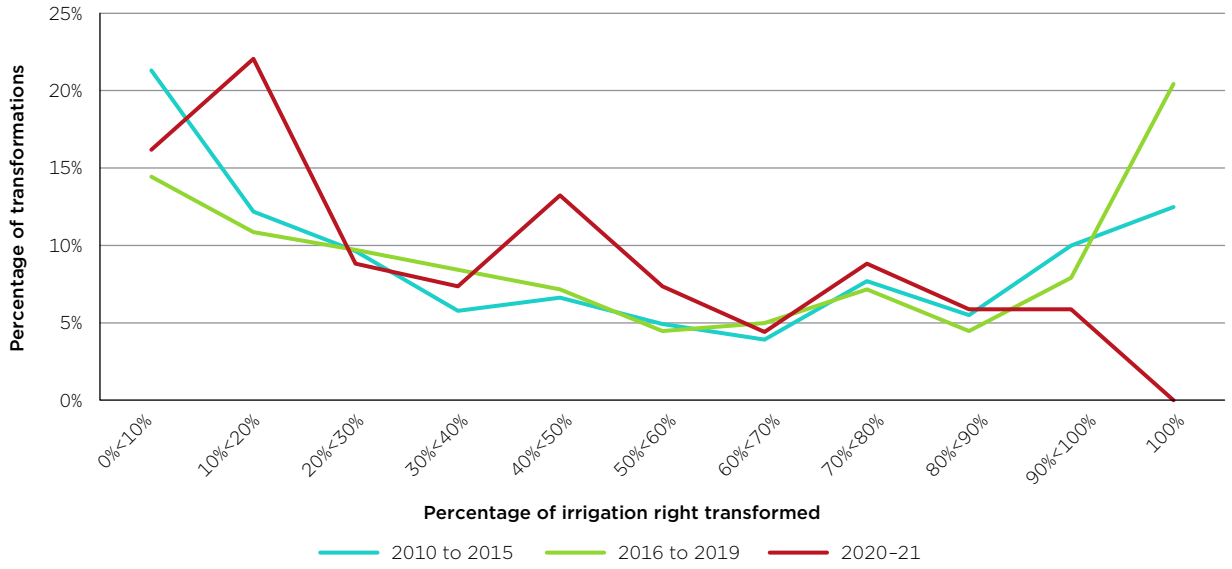
21 The Mitiamo and District Water Supply is a new stock and domestic irrigation network that covers more than 58,000 hectares. A recently completed upgrade included over 300 km of new pressurised pipeline. Before its construction, irrigators lost up to 80% of water to evaporation. GWM owns and operates the newly created Mitiamo Piped Water District. Goulburn–Murray Water, Mitiamo and district domestic and stock pipeline, 2022, accessed 22 March 2022.

transformations have been for less than 10% of an irrigation right, while 24% transformed over 90% (with 15% transforming 100% of their irrigation right).

From 2010–11 to 2014–15, more irrigators transformed a smaller share of their irrigation right than has occurred in recent years. From 2015–16 to 2019–20, transformations of less than 20% of irrigation right fell by 8 percentage points (Chart 2.2). However, during 2020–21 those irrigators transforming less than 20% of their irrigation right jumped 13 percentage points to 38%, compared with just 6% transforming more than 90% of their irrigation right.

This increase in transformations below 20% may represent irrigators feeling more comfortable about trading some water while retaining most for irrigation purposes. For the first time, no irrigator transformed 100% of their irrigation right in 2020–21. Before 2020–21, the lowest number of irrigators transforming all their irrigation rights occurred in 2013–14 with 8% of all transformations.

Chart 2.2: Proportion of irrigation rights transformed in New South Wales and South Australia



Source: ACCC from data provided by irrigation infrastructure operators.

Note: Chart 2.2 does not include Goulburn–Murray Water's transformations.

2.1.3 Since 2010–11, South Australian irrigators have generally transformed a lower share of their irrigation right

Over the past 12 years, irrigators in South Australia have on average transformed a smaller share of their irrigation right than irrigators in New South Wales. Since 2009–10, around 38% of all South Australian transformations were for less than 25% of irrigation right, compared with 27% in New South Wales. Over the same period, 47% of transformations in New South Wales were for more than 75% of irrigation rights, compared with 30% for South Australian irrigators.

New South Wales irrigators transforming more or all their irrigation rights may reflect various factors, including the substantial number of infrastructure upgrades and rationalisations in New South Wales networks, water availability over the period – especially for New South Wales general security (GS) entitlement holders – and the impact of Commonwealth environmental water recovery.[22, 23]

2.1.4 Transformation processing times increased marginally in New South Wales

The Water Market Rules 2009 (WMR) prevent IIOs from imposing excessive fees or unreasonably delaying the transformation of irrigation rights.[24] The transformation process involves multiple steps, including approval by relevant state government agencies. The WMR processing timeframes govern IIO processing times not government agencies' processes. The ACCC monitors IIO compliance with WMR timeframes and reports on total transformation times. Lengthy total transformation times may discourage irrigators from transforming if it means they cannot respond quickly to changing market conditions, including water prices and other opportunities to sell entitlements.

IIOs have 20 business days to complete their part of the transformation process (and a further 5 days to advise the applicant). This allowance does not include the time taken to obtain consent from third parties (including financial institutions that have a mortgage over the property) or the time taken by state government agencies.[25]

Average processing times were longer in New South Wales during 2020–21

In 2020–21, the median total processing time for transformations in New South Wales was 61 days, 4 days more than the 2019–20 median (chart 2.3). The median time for South Australia was considerably less at 12 days in 2020–21, 1 day less than the 2019–20 median. South Australia's median processing time was the lowest since monitoring began. Over the past 5 years, the New South Wales median total processing time ranged from 65 days (2016–17) to 42 days (2017–18), while the South Australian median total processing time ranged from 22 days (2016–17) to 12 days (2020–21).

The time differentials between New South Wales and South Australia partly reflect the differing administrative procedures and requirements between states. In New South Wales, 2 government agencies are involved after the IIO approves the application. Initially the IIO submits the application to WaterNSW which consents to the application and notifies it to New South Wales Land Registry Services (LRS). The customer then has up to 6 months to register the transformation giving it legal effect. In South Australia, the Department for Environment and Water is responsible for approving and registering the transformed water right.

During 2020–21, some IIOs appeared to take longer than permitted under the WMR to process some transformations. The ACCC conducted an initial investigation of one IIO, but concluded the IIO had not breached the WMR. Other IIOs reported delays were largely caused by issues relating to the Covid-19

22 For example, the following Private Irrigation Infrastructure Operators Program projects involved irrigators leaving the industry:
Narromine Irrigation Board of Management, *Private Irrigation Infrastructure Operators Program – modernisation project, Final Report*, October 2017, p 2, accessed 25 March 2022.
Trangie–Nevertire Cooperative Ltd, *Final Project Report under Round One of the Private Irrigation Infrastructure Operators Program in NSW*, 2016, p 36, accessed 25 March 2022.
Marthaguy Irrigation Scheme, Greening the Marthaguy, Final project report under the Private Irrigation Infrastructure Operators Program in New South Wales, 24 May 2012, p 5, accessed 25 March 2022.
Other examples include the amount of water recovered under the Basin Plan by state. The total volume of surface water recovered for the environment from New South Wales to date has been 966 GL compared with 141 GL in South Australia. The extent of water recovery that occurred in New South Wales may have provided more incentive for its irrigators to either sell more of their irrigation rights or exit the industry.
Department of Climate Change, Energy, *Progress on Murray–Darling Basin water recover, July 2022*, accessed 31 August 2022.

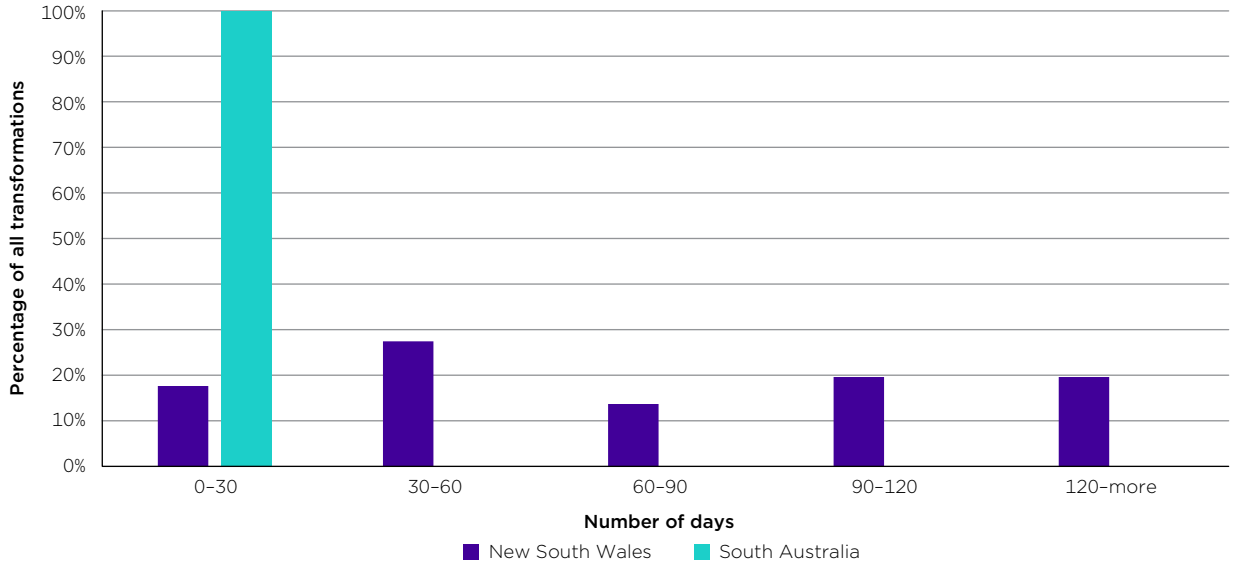
23 During 2018–19, the only general security entitlement holders to receive an allocation were in the Murrumbidgee and Peel valleys. During 2020–21, allocations to these entitlement holders increased marginally but were still relatively low. Further, the volumes of water delivered by the 2 South Australian IIOs (Renmark Irrigation Limited and Central Irrigation Trust) showed little variability when compared with New South Wales IIOs.

24 ACCC, *Murray-Darling Basin water markets inquiry – Final report*, February 2021, Appendix D, p 619, accessed 24 May 2022.

25 The processing times conducted by the New South Wales and South Australian governments for transformation applications are not regulated under the Water Market Rules 2009, unlike those for the IIOs.

pandemic, particularly obtaining consent from third party interests, and the procedural requirements in New South Wales. Chart 2.3 presents the range of transformation times for New South Wales and South Australia for 2020–21. In South Australia, all transformation applications were approved within 30 days. In contrast, New South Wales with its additional procedural steps processed 45% of applications within 60 days and 20% of applications took longer than 90 days.

Chart 2.3: Transformation processing times in New South Wales and South Australia, 2020–21



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

2.1.5 Transformation fees varied considerably among IIOs

IIOs can charge customers a fee to process a transformation application. However, this fee must not exceed an amount based on recovering the reasonable and efficient costs incurred, or likely to be incurred, by the operator in processing the transformation.[26] Table 2.1 reports transformation charges levied by a selection of IIOs for 2020–21.

IIOs' transformation fees changed little from 2019–20, with only 4 of the 11 listed in Table 2.1 reporting modest increases (either 1 or 2%). However, transformation fees varied considerably across IIOs. The average transformation charge for the IIOs presented in Table 2.1 was $328. West Corurgan reported the highest fee, at $550, while Narromine reported the lowest, at $70.[27] Costs that can be recovered include reasonable staff time in handling queries and processing the application, lodging costs and disbursements. Variance in fees between operators is likely to reflect the differing processing arrangements in place within IIOs and the nature and complexity of individual transactions.

Despite the different transformation processes in New South Wales and South Australia (as noted in Section 2.1.4), the government fees for transforming remained similar. In New South Wales, the government processing fees ($505) include the fee for the trade of a share component and the Land Registry Services fee. These were 7% more than the equivalent fee in South Australia ($471). In 2020–21, government fees remained unchanged in New South Wales, while South Australian processing fees increased by 7%.

26 Rule 13 of Water Market Rules 2009.

27 Apart from the period 2012–13 to 2013–14, when Narromine reported a combined 55 transformations which were associated with a rationalisation project, both it and West Corurgan have reported no transformations since 2014–15. Narromine Irrigation Board of Management, *Private Irrigation Infrastructure Operators Program – modernisation project, Final Report*, October 2017, p 2, accessed 25 March 2022.

Table 2.1: Transformation processing fees, 2020–21

Basin state	State processing fee ($)	Infrastructure operator	Operator processing fee ($)	Total fee (state and operator) ($)	
				Low[a]	High[a]
New South Wales	Fee for establishing zero share WAL: WaterNSW fee $344.64[b] + Land Registry Services fee $133.09	Coleambally	250	$755	$1,233
		Hay	350	$855	$1,333
		Jemalong	400	$905	$1,383
		Moira	300	$805	$1,283
		Murray Irrigation Limited	393	$898	$1,376
	Fee for trade of share component: WaterNSW fee $371.75[b] + Land Registry Services fee $133.09	Murrumbidgee Irrigation Limited	230	$735	$1,213
		Narromine	70	$575	$1,053
		West Corurgan	550	$1,055	$1,533
		Western Murray Irrigation	351	$856	$1,334
South Australia	Fee for transfer of WAE on transformation: $471	Central Irrigation Trust	380	$885	$851
		Renmark Irrigation Trust	335	$840	$806

Sources: Schedules of charges and transformation policies of irrigation infrastructure operators; responses from the New South Wales Department of Industry (Water) and the South Australia Department of Environment and Water to ACCC water planning and management requests for information; New South Wales Land Registry Services' schedule of charges.

Notes: Processing fees are those listed in the operators' documents, although not all operators reported transformations in 2020–21.

WAL = water access licence; WAE = water access entitlement.

a. Low fee is for applicants with an existing WAL; high fee is for applicants requiring a new WAL.

b. Refers to fee for online applications. Hardcopy applications were $308.56 for zero share water access licence.

c. Sourced from New South Wales Land Registry, *2020–21 fees update*, June 2020, accessed 28 March 2022.

2.2 Termination numbers and volumes fell in 2020–21

A termination occurs when an irrigator terminates or surrenders part or whole of their right to access an IIO's infrastructure. A customer's right to access an irrigation network generally takes the form of a WDR. Customers holding WDRs pay ongoing (mostly fixed) charges for using the network and maintaining their access right. These fixed fees are still charged even when no water is delivered to an irrigator. By terminating, the irrigator will no longer be liable for paying fixed fees. However, they will no longer be able to have water delivered to their property (unless WDRs are reissued or temporary WDRs or casual access to the network can be arranged with the IIO).

2.2.1 Termination numbers were down in New South Wales and Victoria

South Australian and New South Wales IIOs that can effect transformation reported 11 terminations for 2020–21, down 31% from 2019–20, and the lowest number recorded since monitoring began.[28] In New South Wales joint water supply scheme (JWSS) networks, the number of terminations increased from 1 to 2 and the volume terminated more than tripled to 185 ML.[29] In Victoria, Lower Murray Water (LMW)

28 Operators that can give effect to transformation are concentrated in New South Wales and South Australia. These operators typically hold a group WAE on behalf of their customers, who in turn hold an irrigation right against the operator. In Victoria and Queensland, irrigators typically already hold a WAE directly, so the concept of transformation is not relevant.

29 Joint water supply schemes (JWSSs) are irrigation infrastructure operators where the customers/irrigators jointly hold the water access entitlements. Monitored JWSSs include Buddah Lake, Eagle Creek, Marthaguy, Tenandra and Trangie–Nevertire.

and GMW terminations fell 90% to 8. In total, the number of terminations reported dropped from 99 in 2019–20 to 21 (down 79%) in 2020–21.

For all reporting operators, the total volume terminated in 2020–21 decreased by 95% to 1.25 GL, the lowest since monitoring commenced. These results continue the general trend of declining terminations since 2009–10, which can be attributed to many operators finalising their network rationalisation programs, the dissipation of pent-up demand from irrigators to exit irrigation and an increased tendency to trade WDRs rather than terminate.

Finalising GMW's Connections Project in April 2021 was a significant driver of the decreases in total terminations and the volume terminated.[30] From 2018–19 to 2020–21, terminations from the Connections Project comprised 58% of total reported terminations. In contrast, since 2011–12, when JWSSs reported 34 terminations due to network rationalisations, terminations in those schemes have been very low.[31] Terminations in South Australia remained steady at 5. These terminations all occurred at Central Irrigation Trust (CIT) and its volume terminated increased by 39% to 174 ML.

2.2.2 Around a third of terminations attracted termination fees

IIOs may impose termination fees to offset future losses of revenue from foregone fixed charges. Fixed fees can be a significant component of typical bills for irrigators.[32] Termination fees reduce the extent to which remaining customers must bear the network's fixed costs.

Calculating termination fees changed under the new Water Charge Rules.[33] Operators can no longer include non-volumetric charges, such as a charge per water meter, in termination fees. Under the new Water Charge Rules, the maximum general termination fee that an infrastructure operator can levy is 10 times the fixed volumetric charges for the rights 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.

Chart 2.4 details the proportion of terminated volume for which IIOs imposed termination fees in 2020–21. It also shows the volumes of WDRs surrendered or cancelled without fees. Termination fees were imposed on around 30% of the volumes terminated, up 22 percentage points from 2019–20. The increase in termination fees partly reflects finalising the Connections Project in Victoria. These irrigators typically had their fees waived to incentivise participation in coordinated rationalisation efforts.

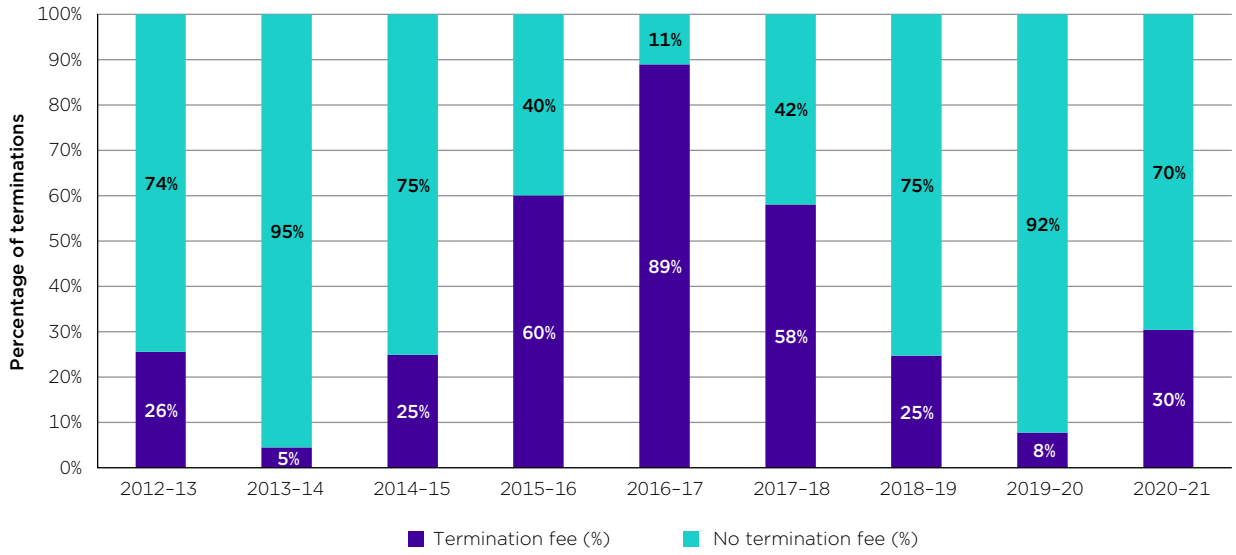
30 Most infrastructure modernisation at GMW occurred under the umbrella of the Connections Project which was previously called the Northern Victoria Irrigation Project. Funding for this project was provided by the Victorian and Australian governments and the aim was to modernise irrigation systems in the network. This included automating regulators, changing customer service points, and remediating and decommissioning channels.
GMW, *Corporate Plan 2019–20 to 2023–24*, 2020, p 41, viewed 23 March 2022.
The connections project ended in October 2020.
Pitt, K. & Neville, L., Joint media release: Connections Project to deliver 429 gigalitres in water savings, 7 October 2020, accessed 23 March 2022.

31 The high number of terminations during 2011–12 was due to Tenandra Irrigation Scheme and Trangie–Nevertire which accounted for 94% of the total terminations and 99% of the volume terminated. The large number of terminations was due to decommissioning and rationalising their respective networks funded in the Private Irrigation Infrastructure Operators Program. For more information on these changes see: ACCC, *Water monitoring report 2011–12*, March 2013, p 45, Box 3.

32 As noted in Section 4.3.2, the share of fixed fees in typical irrigator bills was 57% in 2020–21. This calculation reflects both increases and decreases for all bills for 250 ML of entitlement held with 100% of water delivered during 2020–21. See Chapter 4 for further detail.

33 The Water Charge (Termination Fees) Rules 2009 were amended in 2019, with changes taking effect on 1 July 2020. Rules governing the calculation of termination fees are now included in the Water Charge Rules 2010. For further information on termination and fees refer to the following:
ACCC, *Water Charge Rules*, 2021.
ACCC, *What do the new Water Charge Rules mean for infrastructure operators and irrigators*, July 2020.

Chart 2.4: Volume of terminations, by imposition of termination fee, 2012–13 to 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

Notes: Data for 2009–10, 2010–11 and 2011–12 are not available. Data includes surrendered water delivery rights. Data for Goulburn–Murray Water and Lower Murray Water are converted from ML/day and ML/14 days respectively to ML. Chart includes volumes of WDRs terminated and surrendered.

2.2.3 Termination fees moved in line with annual fixed charges

As expected, average termination fees moved in line with each IIO's fixed charges. As noted in past monitoring reports, maximum termination fees reflect the growth in access fees over time. In 2020–21, the ACCC did not identify any instances of an operator charging a termination fee that exceeded the maximum permissible termination fee under the new Water Charge Rules.

The supplementary spreadsheet to this report presents background data on terminations from 2009–10 to 2020–21.

2.2.4 For some IIOs, termination impacts have been offset by the issuing of new water delivery rights

The volume of WDRs on issue within IIOs can vary depending on terminations of WDRs, rebalancing of existing WDRs or the issuing of new WDRs. WDRs on issue for all monitored IIOs over the period from July 2009 to 2020–21 have not changed significantly overall, decreasing by around 2% to 7,854 GL. The majority (74%) of IIOs reported a decrease in WDRs on issue over this period. Decreases reflected GMW's participation in the Connections Project and smaller NSW IIOs' participation in the Australian Government's Private Irrigation Infrastructure Operators Program. These programs resulted in substantial modernisation and rationalisation of IIO networks and WAEs being traded to the Australian Government.

On 1 July 2021, the total volume of WDRs for New South Wales and South Australian IIOs who can give effect to transformation was 4% higher than the total volume on issue at 1 July 2009.[34] Five IIOs reported an increase in WDRs on issue since 2009. These were Murrumbidgee Irrigation Limited (MI) (up 24%), LMW (up 17%), CIT (up 10%), Renmark Irrigation Trust (up 8%) and Coleambally (up 2%). These increases primarily related to network expansions and smaller IIOs joining larger networks (in South Australia). In 2020–21, MI issued 61 GL of new WDRs, resulting in a net 5% increase on its 2019–20 WDRs on issue. MI

34 Operators that can give effect to transformation are concentrated in New South Wales and South Australia. These operators typically hold a group WAE on behalf of their customers, who in turn hold an irrigation right against the operator. In Victoria and Queensland, irrigators typically already hold a WAE directly, so the concept of transformation is not relevant.

advised around half of the new WDRs related to the Lake View Branch Canal Project.[35] MI's issue of new WDR comprised 96% of total volume of WDRs issued by all monitored IIOs in 2020–21. See Appendix A for further information on the issuing of WDRs and totals held.

2.3 Allocation trade volumes for irrigation infrastructure operators increased in 2020–21

After 3 years of significant drought and water scarcity, increased rainfall and cooler temperatures (influenced by a weak La Nina) returned to most parts of the Murray–Darling Basin (MDB) during 2020–21, increasing water allocations. Total water allocations in the southern MDB were around 6,100 GL, more than double the volume allocated the previous year.[36]

During 2020–21, the New South Wales and Victorian water registers started identifying what types of trade had occurred. Commercial trade types included: standard commercial trading; carryover trading; forward trading; and leases.[37] However, water registers did not provide this data for the full 2020–21 water year. The Victorian water register provided data from late August 2020 and New South Wales reported types of trades from late November 2020. These state register initiatives occurred contemporaneously with the ACCC's MDB water markets inquiry, which recommended South Australia further improve reporting on reasons for trade.[38]

2.3.1 Significantly increased water availability saw allocation prices trend down

Higher water availability from a relatively wet year and higher allocations caused a drop in volume weighted average prices per ML (VWAP $/ML) for allocation trade across the major southern MDB trading zones. The New South Wales and Victorian trading zones below the Barmah Choke fell by 75% to $154/ML and $160/ML respectively. The VWAP for the Murrumbidgee fell by 84% to $96/ML and Victoria's Goulburn Zone 1A VWAP fell 77% to $116/ML.[39]

Declining allocation market prices were also reflected in prices on IIO trading exchanges. MIL's Water Exchange monthly VWAPs fell during 2020–21. The July 2020 VWAP was $234/ML, decreasing to $85/ML during April before increasing to $96/ML in May and closing in June at $92/ML.[40] The overall VWAP for the 2020–21 was $121/ML, down from $539/ML in 2019–20 and representing a drop in prices of 78%.[41]

2.3.2 IIO trade volumes continued to increase during 2020–21

The ACCC collects allocation trade data from larger IIOs, which includes allocation trade volumes into, out of, and within their networks (including irrigation right trade).[42] Allocation trades involve a change of ownership and/or location of a particular volume of water allocation received under a WAE in a given year. Irrigation right trade can involve temporary or permanent trade within an IIO network of water available under an irrigation right. Reported figures for GMW and LMW relate to the allocation trades

35 Murrumbidgee Irrigation's Lake View Branch Canal Project was to improve water supply reliability and increase the flow rate. The project was funded jointly between Murrumbidgee Irrigation and the canal customers. Murrumbidgee Irrigation, Winter Works 2020 – Lake View Branch Canal Expansion Project, April 2020, accessed 23 March 2022.

36 Aither, *Water markets report, 2020–21 review and 2021–22 outlook*, 2021, p 13, accessed 12 December 2021.

37 Carryover refers to unused water in a previous year that can be carried over into the following year and traded based on certain conditions. Forward trading refers to a trade of water for a future date with a defined price and volume. Leasing can refer to where an entitlement holder sells their entitlements to obtain capital then leases back from the new owner over the lease back period. ACCC, *Water monitoring report 2017–18*, May 2019, p 42, accessed 10 June 2022.

38 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, February 2021, Recommendation 6, p 29, accessed 10 June 2022.

39 Aither, *Water markets report, 2020–21 review and 2021–22 outlook*, 2021, p 19, accessed 12 December 2021.

40 Murray Irrigation, *Annual Report*, 2021, p 9, accessed 23 March 2022.

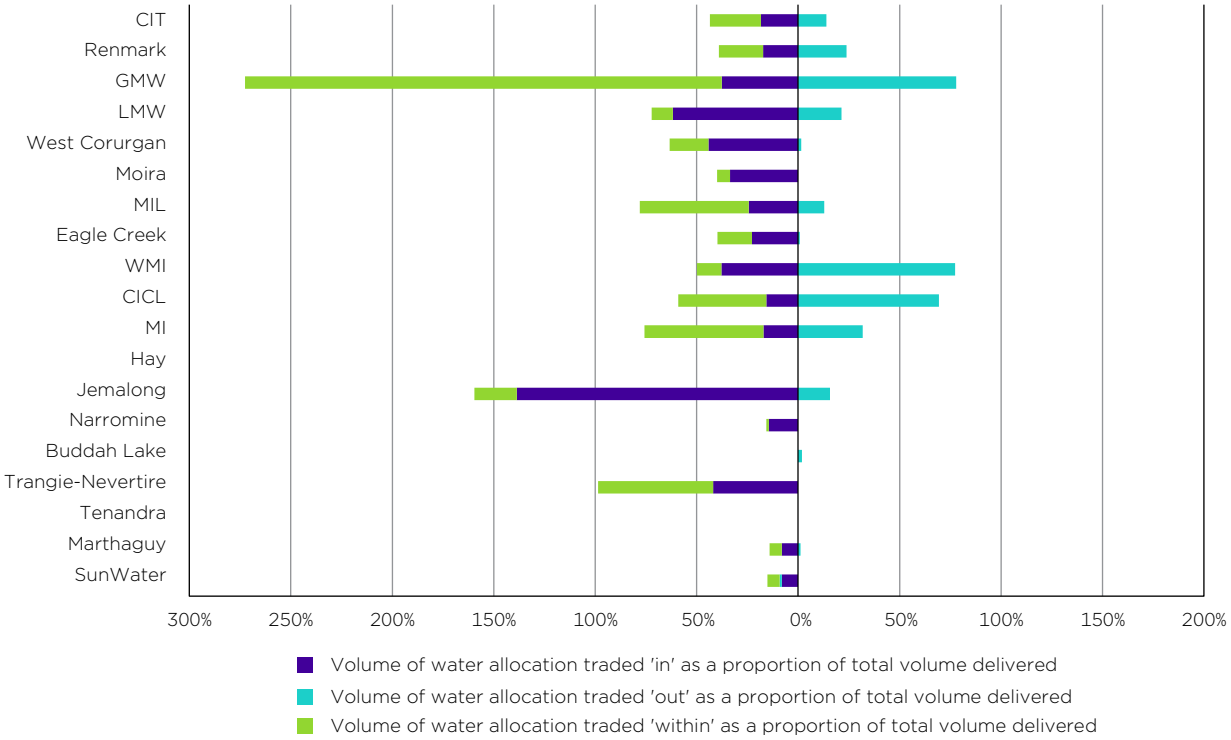
41 Murray Irrigation Water Exchange, *www.murrayirrigation.com.au/water/system/water-data/*, accessed 15 February 2022.

42 The ACCC requests allocation trade volumes only from IIOs providing services relating to more than 10 GL of WAE.

conducted by their customers. Chart 2.5 shows the allocation trade volumes reported by larger IIOs as a proportion of total water delivered.

Total allocation trade volumes reported to the ACCC increased by 16% during 2020–21 to 5,892 GL. New South Wales IIO allocation trade volume more than doubled, driving the overall increase in the total volume traded. It was offset by decreased volumes traded by Victorian IIO customers (down 6%) and South Australian IIOs (down 8%). The New South Wales IIOs were net exporters of allocation during 2020–21 and have been for the past 2 years. Net exports by the IIOs located in the Murrumbidgee regulated river drove the result and contributed 82% of the New South Wales total net exports.[43] The volume exported by the Murrumbidgee regulated river IIOs increased by 87% during 2020–21 to 418 GL. The South Australian IIOs became net importers during 2020–21 after they were net exporters in 2019–20.[44] The net volume of allocation traded into networks for South Australian IIOs totalled 3 GL. The volume of allocation trade reported by the 5 IIOs in the Macquarie regulated river (northern basin) increased from 594 ML in 2019–20 to 14,023 ML in 2020–21.[45]

Chart 2.5: Water allocation volumes traded into, out of and within IIO networks, as a proportion of total water volume delivered, 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

Notes: CICL = Coleambally Irrigation Cooperative Limited; CIT = Central Irrigation Trust; GMW = Goulburn–Murray Water; LMW = Lower Murray Water; MI = Murrumbidgee Irrigation Limited; MIL = Murray Irrigation Limited; WMI = Western Murray Irrigation Limited.

Hay Private Irrigation District and Tenandra Irrigation Scheme reported zero allocation trade during 2020–21.

Table 2.2 shows the allocation trade volumes reported to the ACCC over the past 3 years. Allocation trade within IIOs' networks was the dominant type of trade, ranging from 53% to 56% of total trade. The 3 types of allocation trade have been relatively consistent over the past 3 years.

43 Net exports are calculated by subtracting water allocation traded in from water allocation traded out. Monitored IIOs located along the Murrumbidgee River include Coleambally, Hay Private Irrigation District and Murrumbidgee Irrigation.

44 While there was a net import of allocation trade from the 2 monitored South Australian IIOs, this was driven by Central Irrigation Trust with net imports of 5 GL while Renmark Irrigation Trust had a net trade of 2 GL out of the network.

45 Monitored IIOs located along the Macquarie include Buddah Lake, Marthaguy, Narromine, Tenandra and Trangie–Nevertire.

Table 2.2: Total allocation trade volumes reported to the ACCC, 2018–19 to 2020–21

Allocation trade (GL)	2018–19	2019–20	2020–21
Volume traded into networks	827	1,039	1,153
Volume traded out of networks	1,125	1,345	1,421
Volume traded within networks	2,449	2,716	3,319
Total trade	**4,401**	**5,100**	**5,892**

Source: ACCC from data provided by irrigation infrastructure operators.

2.4 Water delivery right trade expanded in 2020–21

WDRs are rights to have water delivered by an IIO, and they typically represent the holder's right of access to an irrigation network. The terms and conditions of WDRs are set out in contracts or policies of the infrastructure operator and vary from network to network, and within networks. If an irrigator has surplus WDRs or wants to cease irrigation activities, the irrigator may seek to trade WDRs within their IIO network instead of terminating and paying termination fees.

Reported WDR trade has been variable over the period and between IIOs. WDR trade fell consistently between 2012–13 (when 99 GL of WDR was traded) and 2018–19 when only 20 GL of WDR was traded. The total trade of WDRs from 2012–13 to 2017–18 was large when compared with an average of 78 GL in later years. However, total WDR trade dropped by 74% in 2018–19 to 20 GL. The average GL traded after 2017–18 was around 35 GL, 55% less than for the period from 2012–13 to 2017–18. More recently, 2019–20 and 2020–21 saw substantial rises in the volume of WDR traded with increases of 37% and 121% respectively

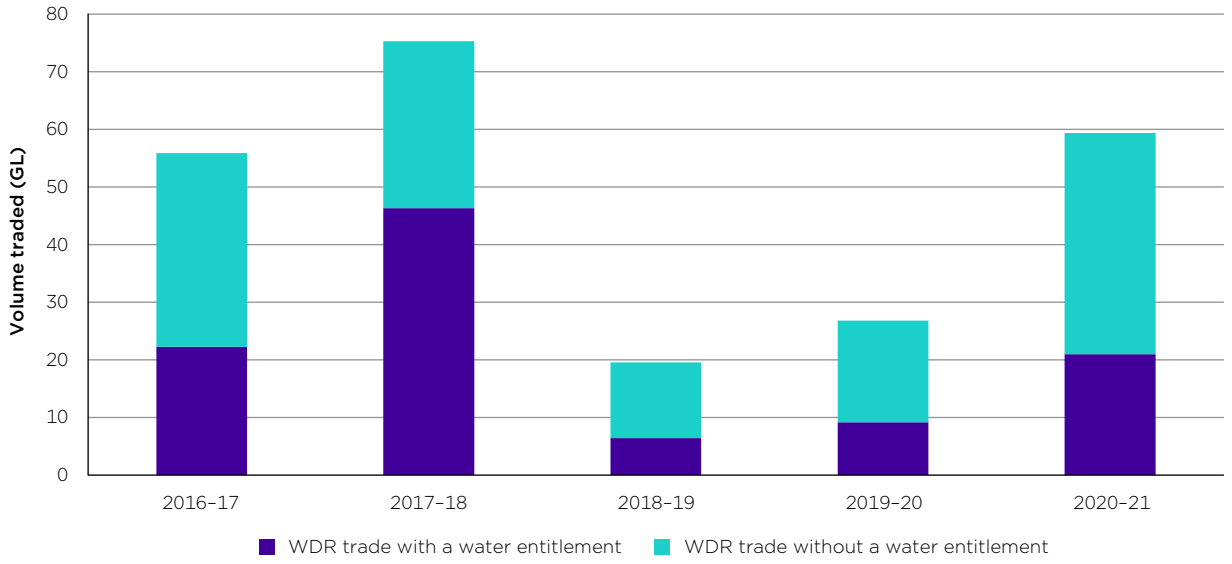
A general decline in WDR trade since 2012–13 may be attributed to many IIOs finalising modernisation/rationalisation programs, the dissipation of pent-up demand from those irrigators who wanted to exit irrigation and a more settled irrigation market. However, WDR trade activity increased recently, and the older median demographic of irrigators and increased corporate investment may see changes to trends observed to date.

Total WDR trade reported in 2020–21 was significant, with an increase of 121% from 2019–20 and the largest increase since 2015–16 (Chart 2.6). Coleambally and MIL contributed around 50% of the total WDR traded in 2020–21. Coleambally's WDR trade increased by 732% from 2019–20 and was largely related to one larger, and several smaller, irrigator transactions. MIL's WDR trade increased by 51%. MIL advised the increase may have been related to the higher volumes of water delivered during 2020–21. Similarly, Narromine Irrigation advised the increased WDR trade was related to the drought breaking. Low water availability in previous years meant irrigators were reluctant to trade WDR. Narromine's WDR trade increased from 30 ML in 2019–20 to 8,484 ML in 2020–21.

WDRs can be traded with or without water entitlement. WDR trade volumes 'traded with' increased by 129% to 21 GL during 2020–21. Around 73% of the WDR traded with water entitlements occurred at Narromine and Jemalong.

Volumes of WDR trade without a water entitlement increased by 117% in 2020–21 to just over 38 GL. Around 92% of this total was traded in MIL, Coleambally and MI. MIL noted most of the WDR trade in its network related to intra-business transfers to existing irrigators (around 88% of its WDR trade without irrigation rights).

Chart 2.6: Volume of WDR trade, 2016–17 to 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

Since 2012–13, IIOs reported irrigators have used trade to reduce WDR holdings. Total volume of WDR trade without water entitlements has been around 293 GL, substantially above termination volume (with termination fees paid) of 60 GL. Many smaller IIOs reported zero or very little WDR trade. This result is likely due to these IIOs having small, settled memberships. Other IIOs including Jemalong and Western Murray reported substantial WDR trade: around 55% and 47% of WDR rights on issue in these IIOs since 30 June 2009 respectively. We understand WDR trade reported for these operators primarily related to property transfers rather than reallocation of network capacity between existing customers. WDR holders chose to offer their water entitlements and WDRs for sale in separate parcels. Over the past 3 years, WDR trade without a water entitlement comprised 65% of the total volume of WDR traded.

Unlike WAE trade, which has price reporting obligations under the Basin Plan water trading rules, WDR (and irrigation right) trade price reporting is not required or collected although this is expected to change in future. The ACCC's final report into the MDB water markets noted the trade of WDR and irrigation rights accounts for a large proportion of trade within the Basin, and the lack of reporting means large segments of the market are opaque. Recommendation 3 from the report proposes extending the price reporting obligations to the state registers for WAE trades to include WDR and irrigation right trades.[46]

Appendix A includes more information on WDRs and the development of WDR trade and WDR trade trends over the past decade.

46 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, February 2021, p 28, accessed 28 April 2022.

03

Most typical bills for on-river infrastructure operators increased in 2020-21

Supply channel.
Source: Courtesy Murray Irrigation Limited

3. Most typical bills for on-river infrastructure operators increased in 2020–21

Key points

- The ACCC uses on-river infrastructure operator (IO) typical bills to analyse the changes in IOs' regulated water charges from year to year. Monitoring on-river IOs' charges helps highlight the impact of state regulators' pricing decisions for customers in these networks.
- In the southern Murray–Darling Basin (MDB), most 2020–21 on-river IO typical bills increased by around 2% (compared with 2019–20). In contrast, bills for Victorian private diverters in the Goulburn and Murray basins fell by just over 9% and just under 19% respectively. These falls reflected significant decreases in the respective entitlement storage fees after review by the Essential Services Commission Victoria (ESCV).
- ESCV changes to charges for Goulburn–Murray Water (GMW) customers saw bills for the Bullarook system increase by around 2%. This contrasts with the increases of 10% plus consumer price index that have occurred for the past several years.
- In the northern MDB, typical bills for WaterNSW customers mostly increased around 2%. This result reflects the NSW Government decision to continue waiving up to $4,000 in fixed charges as part of its drought relief package for general security licence holders across the state and for high security (HS) licence holders in the Namoi, Peel and Border valleys. The exception was for HS bills in the Macquarie valley; the government removed the rebate for these users after conditions improved.
- In September 2021, the Independent Pricing and Regulatory Tribunal of New South Wales (IPART) completed its review of WaterNSW's charges for October 2021 to June 2025. Under the final decision, published on 9 September 2021, rural bulk water charges in New South Wales will increase on average by 30%.
- ACCC decisions made in 2021 and 2022 changed the regulatory framework for some on river IOs. They will no longer have their Basin infrastructure charges approved or determined under the Water Charge Rules 2010.

This chapter reports on regulated water charges imposed by on-river infrastructure operators (IOs) across the Murray–Darling Basin (MDB) for 2020–21. In the MDB, the ACCC monitors the following on-river IOs:

- Goulburn–Murray Water (GMW)
- Lower Murray Water (LMW)[47]
- WaterNSW
- Sunwater, for the 6 Water Share Schemes (WSS) within Queensland's area of the MDB.

47 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.

On-river IOs manage water service infrastructure used for harvesting, storing and delivering water to other IOs, private diverters and other reticulated water systems. On-river IOs use a variety of charge or tariff structures to recover the costs of providing these services from their customers.

- Section 3.1 reports on the volumes of water delivered by on-river IOs in 2020–21.
- Section 3.2 describes the results of the ACCC's 2020–21 typical on-river IO bills for the southern MDB, and the changes from 2019–20.
- Section 3.3 describes the results of the ACCC's 2020–21 typical on-river IO bills for the northern MDB, and the changes from 2019–20.
- Section 3.4 discusses recent decisions by Basin state regulators about on-river IO charges and by the ACCC on regulatory arrangements for on-river IOs under Part 6 of the Water Charge Rules 2010.

3.1 Increased water deliveries reflected substantial water allocations for the first time in 3 years

As noted in Section 1.1.2, many general security (GS) entitlement holders receiving allocations for the first time in 3 years meant total water allocations increased during 2020–21.

The total volume of water delivered by on-river IOs increased by 86% on the 2019–20 volume, to 6,510 GL in 2020–21. WaterNSW's deliveries to private diverters grew by 477% to 2,729 GL. This increase comprised 80% of the total growth in WaterNSW bulk or on-river water deliveries. Deliveries to irrigation infrastructure operators by WaterNSW remained virtually unchanged with a slight increase (less than 1%) in 2020–21. Overall, total deliveries of water in New South Wales increased by 201%. In Victoria, the increase was substantially smaller at 10%, while in Queensland the increase was 4%.

Table 3.1 presents the delivery volumes (megalitres, ML) for 2019–20 and 2020–21 for on-river IOs in the MDB.

Table 3.1: Water access rights and delivery volumes, by on-river infrastructure operators 2020–21

Operator	Volume of water access rights held/serviced (ML)	Volume of water delivered (ML)		Volume delivered (ML), by customer type				
		2020–21	2019–20	Private diverters	Irrigation infrastructure operators	Environmental water holders	Urban water suppliers	Other
WaterNSW (NSW)	9,466,170	4,232,984	1,405,105	2,728,559	632,078	732,867	50,480	89,001
Sunwater (Qld)	90,058	34,928	33,733	31,469	0	0	3,451	8
Department of Regional Development, Manufacturing and Water (Qld)	84,414	2,160	1,650	220	0	0	1,940	0
Goulburn–Murray Water (Victoria)	641,953	1,652,531	1,461,709	71,434	940,808	578,851	61,438	0
Grampians Wimmera Mallee Water (Victoria)	82,980	14,933	22,036	0	0	14,816	117	0
Lower Murray Water (Victoria)	371,122	572,800	569,972	440,875	110,615	685	20,625	0
Total	**10,736,697**	**6,510,337**	**3,494,206**	**3,272,558**	**1,683,501**	**1,327,218**	**138,052**	**89,009**

Source: ACCC from data provided and published by on-river infrastructure operators.

Note: Figures may not exactly equal the totals, due to rounding. For the Victorian operators (Goulburn–Murray Water and Lower Murray Water), the reported volumes of water access rights held are less than the volumes of water delivered. This difference arises because the bulk entitlements reported by the operators do not include all entitlements for customers to whom they deliver water.

3.2 The ACCC calculates typical bills to assess changes in charges for on-river infrastructure operators

The ACCC calculates typical bills for customers of on-river IOs in Queensland, New South Wales and Victoria, as well as bills for private diverters in Victoria and in South Australia (where there is no on-river IO). These typical bills are a simple representation of how regulated water charges levied for irrigation water delivery and drainage services translate into individual irrigator customer bills based on certain assumptions. The bills are grouped and analysed according to whether a system is in the northern or southern MDB, given the different characteristics of these regions.[48] The considerable bill variation across IOs partly reflects geographic characteristics, but also other differences including the degree of cost recovery, the variation in the high security (HS) premium and, to a lesser extent, variations in tariff structures (that is, the mix of variable, fixed and non-volumetric charges imposed).[49]

The Water monitoring report 2020–21: monitoring approach and assumptions background document (which can be found on the ACCC website) sets out the assumptions made in constructing typical on-river IO bills and the charges that are included. Typical on-river IO bills assume the customer holds a water access entitlement (WAE) of 1,000 ML and received delivery of 50% or 100% of their WAE (these 2 scenarios demonstrate the effect of variable charges on the total amount payable). The typical bills are produced for different WAE reliability classes, where applicable. In New South Wales, bills vary depending on whether the WAE held is GS or HS.

Victoria's fixed charge structure (without variable/usage charges) means water delivery volumes have no impact on on-river IO bills (Chart 3.1). The use of fixed charges also means water users still pay regardless of whether they receive water during the year.

In New South Wales, the fixed and variable cost structure means typical on-river IO bills are affected by the volumes of water delivered. Fixed costs are charged per ML of water held on the type of WAE (GS or HS). For 2020–21, New South Wales typical bills reflect that the Independent Pricing and Regulatory Tribunal of New South Wales (IPART) annual review of WaterNSW's prices maintained the charges set in the June 2017 price determination, with increases in line with the consumer price index (CPI).[50]

In South Australia, the charges paid by private diverters are determined by the South Australian Government's water levy for the River Murray All Purposes Consumptive Pool (Class 3 and Class 5) WAEs under the Landscape Management Act 2019 (SA).[51] In 2020–21, for WAE Class 3 (irrigation) users, South Australia's water levy for the Murray River prescribed water course increased by just under 2% when compared with 2019–20.[52]

3.3 Most southern MDB on-river IO typical bills increased moderately in 2020–21

The ACCC developed 34 typical on-river IO bills for the 17 systems in the southern MDB.

Typical on-river IO bills in Victoria ranged from a low of $7,610 in the Goulburn system to a high of over $471,780 in the Bullarook system. Typical bills tended to be higher in smaller systems such as Bullarook – the smallest of GMW's irrigation districts measured by water delivered and WAEs held – because there are fewer customers to share the fixed infrastructure costs.

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48 Typical on-river IO bills tend to be higher in the northern MDB compared with the southern MDB. Further, the volume of WAE on issue and average water use tends to be higher in the southern MDB which allows for fixed costs to be spread over a greater number of users.

49 For the period, the WaterNSW charges generally reflect a tariff structure with a 40:60 fixed variable split, except in the Peel Valley which has a ratio of 80:20 and the Lowbidgee (100% fixed, with supplementary-only licences). HS WAE charges are calculated by multiplying the GS WAE charges by the HS premium.

50 IPART, *WaterNSW Annual Review of rural bulk water charges for 2020–21*, p 2, accessed 10 November 2021.

51 On 21 November 2019, the South Australian Government repealed the *Natural Resources Management Act 2004* (SA) and replaced it with the *Landscape South Australia Act 2019* (SA). This new Act created 8 regional landscape boards. The relevant board for the *Water monitoring report* is the Murraylands and Riverland Landscape Board. The South Australian Government Gazette published on 25 June 2020 listed the charge for the River Murray.

52 *Landscape South Australia Act 2019* (SA), s 76.

New South Wales southern MDB GS typical bills at 100% of water delivered ranged from as low as $4,770 for GS WAE holders in the Murray system to $22,430 for GS WAE holders in the Lachlan valley. For HS WAE holders at 100% of water delivered, typical bills ranged from $11,160 in the Murrumbidgee valley to $40,220 in the Lachlan valley. The variation in typical bills reflects the differing characteristics of each system including size and charges applied. It also reflects the degree of cost recovery and the variation in tariff structures. The latter refers to the mix of variable, fixed and non-volumetric charges imposed. HS bills are generally higher than GS WAE bills which reflects the premiums put on HS WAEs.

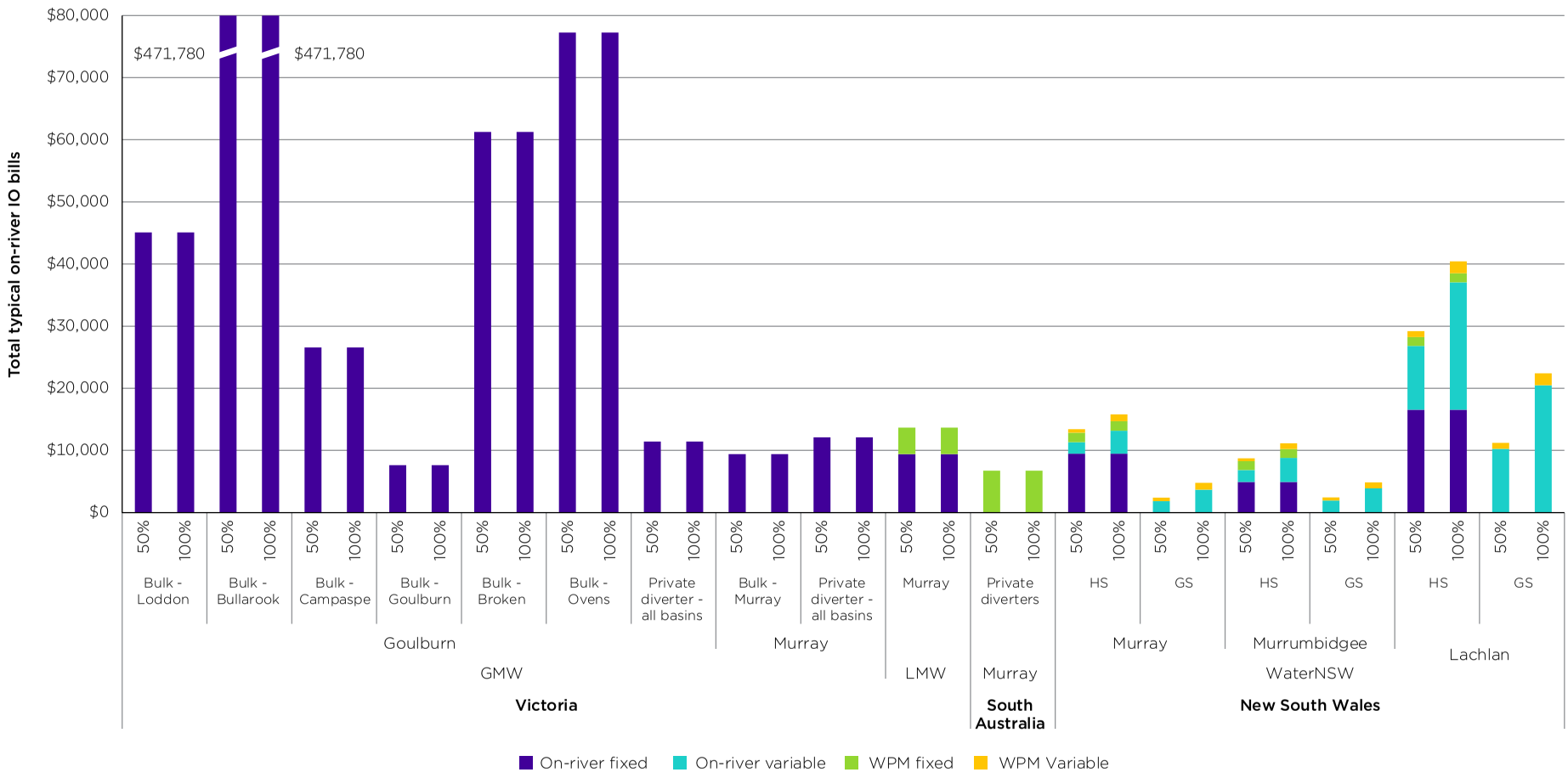
Most typical on-river IO bills increased (usually below or just over the CPI) while around 12% of typical bills decreased during 2020–21.

In the southern MDB for 2020–21, the ACCC observed:

- Typical bills for GMW's Broken and Ovens basins increased by just over 2% from 2019–20. This was the lowest increase over the past 10 years. The ESCV's previous pricing determination for 2016 to 2020 approved annual price increases of 10% plus CPI so that these systems would reach full cost recovery.[53] The increases reflected their small size and lack of economies of scale, with fewer customers, smaller areas and less water delivered. To show the difference in network sizes, in 2020–21 GMW delivered 886 GL and 695 GL in the Goulburn and Murray basins respectively, and 6 GL and 12 GL in the Broken and Ovens basins.
- GMW's private diverter typical bills for the Goulburn and Murray systems (all basins), decreased by just over 9% and 19% respectively from 2019–20. The Goulburn private diverter bill reflected a decrease in the WAE storage fee for high reliability water shares (HRWSs) and a small decrease in the service fee. Lower access fees also contributed to the decrease in these private diverter typical bills.
- NSW southern MDB HS and GS typical on-river IO bills increased at or just above CPI.
- South Australian private diverter typical on-river IO bills increased by 2% to $6,750 for 100% of water delivered. The changes to South Australia's private diverter typical bill reflected an increase in the water levy for the Murray River prescribed watercourse WAE Class 3 (irrigation) licences.

53 Historical pricing decisions and spending on dam safety upgrades saw operation and maintenance costs exceed the revenues collected. The ESCV's draft decisions and final decisions on GMW's 2016 price review submission approved the annual 10% increase to June 2020.
Goulburn–Murray Water, *Goulburn–Murray Rural Water Corporation – Submission to Price Review 2016 (Water Plan 4), 2016*, p 101, accessed 25 April 2021.

Chart 3.1: Typical on-river infrastructure operator bills, 1000 ML WAE held, southern Murray–Darling Basin, by charge components, 2020–21



Source: ACCC from data provided and published by on-river infrastructure operators.

Notes: Fixed charges include fixed volumetric and non-volumetric charges. The 50% and 100% figures refer to the proportion of water under an entitlement delivered to the water user. HS = high security; GS = general security; WPM = water planning and management (charge).

3.4 Most typical on-river infrastructure operator bills in the northern MDB also grew in 2020–21

The ACCC calculated 38 typical on-river IO bills for the northern MDB. These bills tend to be higher than the bills for the southern MDB, reflecting the smaller economies of scale arising from the lower volumes of WAE issued in the northern systems. As noted in Section 3.2, the 50% and 100% of water delivered assumptions used to calculate the typical bills often differ when compared with actual allocations for the northern MDB valleys during the year.

In 2020–21, the NSW Government continued to waive fees for GS WAE holders and for HS entitlement holders in the NSW Border Rivers, Peel and Lower Namoi rivers. Allocations were still restricted and deliveries of water from the regulated river sources were not guaranteed.[54] It discontinued the rebate for HS WAE holders in the Macquarie valley.

All typical on-river IO bills for New South Wales northern MDB valleys increased in 2020–21, with most just above CPI. The exception was for the Macquarie valley, where HS typical bills for 50% water delivered increased by 200% while bills for 100% water delivered increased by 101%. The large changes in the Macquarie bills reflected the reinstatement of fixed fees. If the fee waiver had continued, the Macquarie valley 100% delivered bill would have increased by only 2%.

Typical on-river IO bills in Queensland either did not change in 2020–21 or had small decreases. Typical on-river bills for the Macintyre Brook WSS fell by less than 1% for 50% water delivered and 1% for 100% water delivered. Bills for the Cunnamulla WSS fell by 2% for 50% water delivered and 5% for 100% water delivered. Typical bills for the St George WSS fell by around 1% for both 50% and 100% water delivered. Typical bills for the Chinchilla, Maranoa and Upper Condamine WSSs did not change.

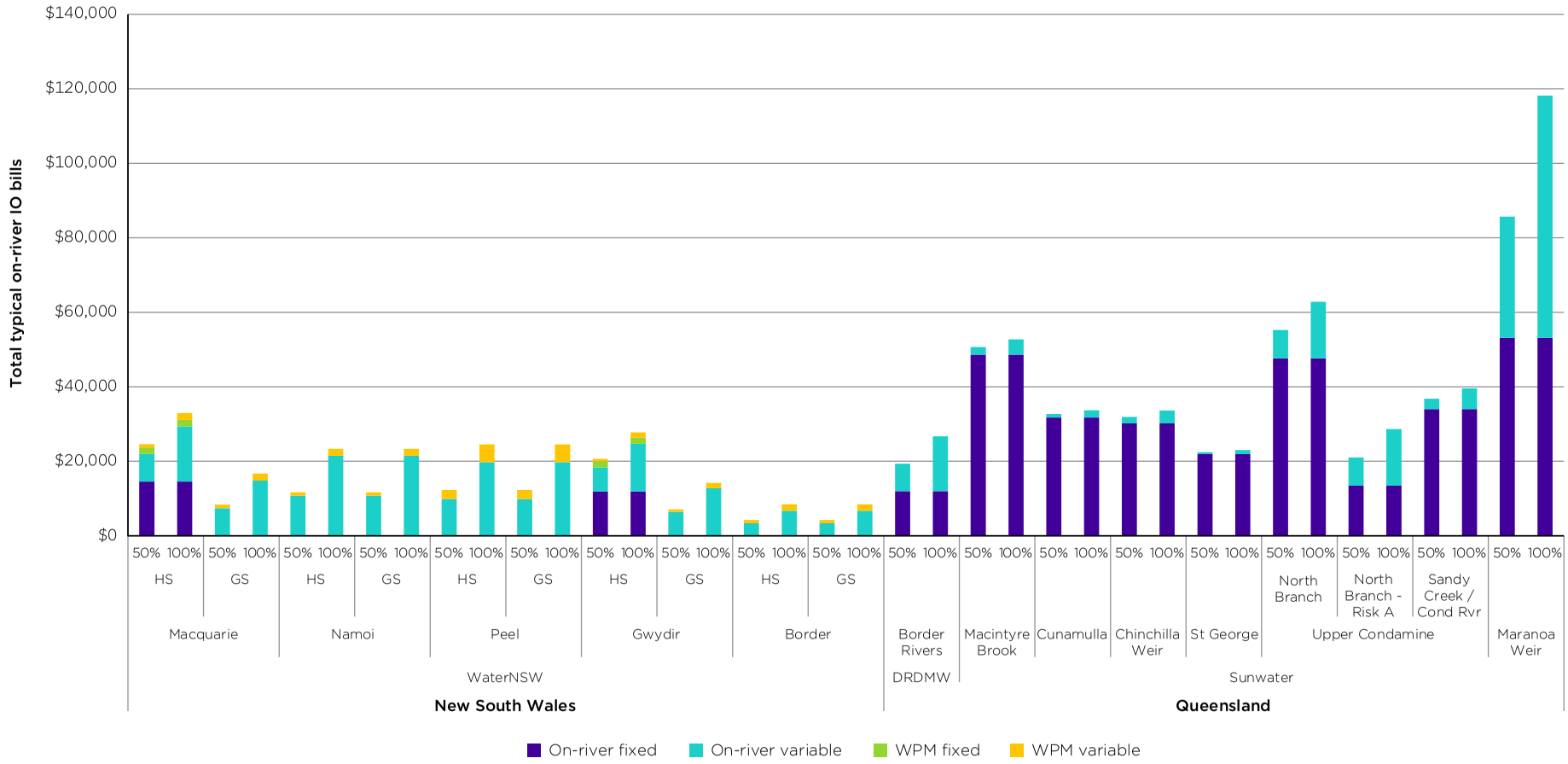
The Queensland Treasurer's notification of Sunwater's proposed charges stated prices were to remain at 2019–20 levels or be set at the 2020–21 price recommendations by the Queensland Competition Authority (QCA), whichever was smaller. The final decision accounted for economic conditions and the Covid-19 pandemic.[55] The actual changes to Sunwater's charges were mixed. A number of fixed WAE charges remained at 2019–20 levels, while most variable usage charges increased. All charges for Maranoa Weir remained at 2019–20 levels. Generally, prices subject to the QCA pricing investigation decreased or remained unchanged, as required by the Ministerial direction; the commercial charges set by Sunwater increased at or around CPI. The Maranoa WSS has the smallest volume of WAE on issue in the northern MDB, at 805 ML, and has 4 bulk irrigation customers.[56] Sunwater has not charged the 4 bulk irrigation customers for water use since 2014–15 because salinity issues at the water source have made water deliveries unreliable.

54 Department of Primary Industries, *Frequently asked questions*, May 2020, accessed 16 March 2022.

55 Trad, J., *Queensland Government Gazette, Volume 384*, 5 May 2020 (Number 5), p 28, accessed 16 March 2022.

56 Queensland Competition Authority, *Final Report: Sunwater Irrigation Price Review 2012–27 Volume 2 Maranoa River Water Supply Scheme*, 2012, p 1, accessed 8 April 2022.

Chart 3.2: Typical on-river infrastructure operator bills, for 1000 ML WAE held, northern Murray–Darling Basin, by charge components, 2020–21



Source: ACCC from data provided and published by on-river infrastructure operators.

Notes: Fixed charges include fixed volumetric and non-volumetric charges. The 50% and 100% figures refer to the proportion of water under an entitlement delivered to the water user. HS = high security; GS = general security; WPM = water planning and management (charge).

DRDMW refers to Queensland Department of Regional Development, Manufacturing and Water.

3.5 Regulatory arrangements for on-river infrastructure operators began transition to new framework in 2020

On 1 July 2020, the Water Charge Rules 2010 (the WCR) came into effect, amending and combining the Water Charge (Infrastructure) Rules 2010, the Water Charge (Termination Fees) Rules 2009 and the Water Charge (Planning and Management Information) Rules 2010 into a single set of rules – the WCR.

An intent of the new WCR was to hand back regulatory responsibility for IOs previously regulated under Part 6 of the WCR to Basin states under Basin state laws. Basin state regulatory approaches must ensure relevant IOs' costs are prudent and efficient and infrastructure charges are set at levels that would not allow the operator to earn monopoly returns.

The definition of a Part 6 operator changed with the new WCR. Under the amended provisions, infrastructure charges for a Part 6 operator will be determined or approved by the ACCC unless the ACCC grants the operator an exemption from those requirements.[57] If the operator is not a Part 6 operator or the ACCC has granted an exemption, then the operator's infrastructure charges are set under state law.

Under the previous Part 6 provisions, GMW, LMW and WaterNSW were all Part 6 operators; Sunwater was not a Part 6 operator. The new rules outlined transitional arrangements for existing Part 6 operators and required the ACCC to consider their status. The WCR also required any other entity that might be a Part 6 operator to notify the ACCC of its view. Beginning in 2021, the ACCC made decisions (available on the ACCC website) on the Part 6 status of the following operators:

3.5.1 Sunwater

On 27 October 2021, the ACCC determined Sunwater was a Part 6 operator under the WCR. On 15 December 2021, the ACCC granted Sunwater an exemption from certain requirements of Part 6.

The ACCC considers aspects of Queensland's regulatory framework could be strengthened to better reflect Basin water charging objectives and principles. Australian and state and territory governments are currently reviewing national water reform commitments, including to the water charging objectives and principles. As such, the ACCC will review Sunwater's exemption in 5 years.

3.5.2 Lower Murray Water

On 27 October 2021, the ACCC determined LMW will be a Part 6 operator under the WCR after 30 June 2023. On 27 October 2021, the ACCC granted LMW an exemption from certain requirements of Part 6.

On 1 December 2021, amendments to the *Water Industry Act 1994* (Vic) contained in the *Windfall Gains Tax and State Taxation and Other Acts Further Amendment Act 2021* (Vic) came into effect. Before these amendments came into effect, the ESCV could not determine Basin infrastructure charges levied by Victorian operators beyond the end of their regulatory periods. The legislative changes removed the provisions allowing for accreditation under the old WCR and enabled the ESCV to approve or determine charges under existing state laws, at the end of the relevant regulatory period.

On 13 April 2022, the ACCC formed the view that LMW will cease to be a Part 6 operator under the WCR after 30 June 2023.

57 Water Charge Rules 2010, divisions 2, 3 and 4 of Part 6.

3.5.3 Goulburn–Murray Water

On 13 April 2022, the ACCC determined GMW will cease to be a Part 6 operator after 30 June 2024. As above, the amendments to the *Water Industry Act 1994* (Vic) contained in the *Windfall Gains Tax and State Taxation and Other Acts Further Amendment Act 2021* (Vic) allow the ESCV to approve or determine GMW's charges under existing state laws, after GMW's current regulatory period ends (30 June 2024).

3.5.4 WaterNSW

On 13 April 2022, the ACCC determined WaterNSW will cease to be a Part 6 operator after 30 June 2025. This decision reflected that on 29 May 2020, the NSW Minister issued a standing Ministerial reference directing IPART 'whenever it conducts an investigation pursuant to that reference, to consider the approach to approving infrastructure charges provided for under rule 29(2)(b) of the WCR'.

This decision did not alter the charges approved by IPART under WCR transitional arrangements for the period 1 July 2021 to 30 June 2025 (Box 3.1).

Box 3.1: IPART's WaterNSW and Water Administration Ministerial Corporation price reviews 2021–25

Background

The Independent Pricing and Regulatory Tribunal of NSW (IPART) reviewed WaterNSW's proposed revenues, expenditures and water prices for the period 1 October 2021 to 30 June 2025. Under the final decision, published on 9 September 2021, rural bulk water charges in New South Wales will increase on average by 30%. The prices set by IPART aim to recover users' share of the efficient costs of providing rural bulk water services with the remaining share funded by the NSW Government.[58]

A licence holder will pay a number of charges to hold and use water, including the WaterNSW fixed and variable bulk charges and the Water Administration Ministerial Corporation (WAMC) charges, made up of a Murray–Darling Basin Authority (MDBA) charge; a Border Rivers Commission (BRC) charge; metering reform charges; and various miscellaneous charges.[59] IPART was unable to consult on draft metering prices because metering reforms restricted the amount of information available on metering costs. The metering reforms covered new reporting rules and metering requirements and specifications for non-urban water meters.[60] The 2021–22 prices commenced 1 October 2021.

Review of WaterNSW's prices

IPART's process for setting prices is to first determine efficient costs and the subsequent notional revenue requirement (NRR). This represents IPART's view of total efficient costs for providing WaterNSW's regulated services each year. The NRR also assigns a cost share ratio between the NSW Government and WaterNSW customers with the prices customers pay derived from the customer share.

58 IPART is the independent pricing regulator in New South Wales and sets charges for many industries including energy (solar feed-in tariffs), local governments (sets the maximum increase for council rates) and transport (sets fares for buses, rail, light rail, and ferries).
IPART, *Industries we regulate*, 2022, accessed 9 May 2022.

59 The WaterNSW fixed and variable bulk charges recover the customers' share of the efficient costs of delivering the bulk water services. The Water Administration Ministerial Corporation charge aims to recover water users' share of the costs of water planning, regulation, licensing, compliance and enforcement. The Murray–Darling Basin Authority and Dumaresq–Barwon Border Rivers Commission charges are levied on customers in the Murray and Murrumbidgee and Border valleys to recover some of the funds New South Wales contributes to these agencies.
IPART, *Review of WaterNSW rural bulk water prices, from 1 October 2021 to 30 June 2025*, September 2021, p 17, accessed 10 May 2022.
IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 October 2021 to 30 June 2025*, September 2021, p 18, accessed 10 May 2022.

60 IPART, Letter to CEO WaterNSW, May 2021, accessed 10 May 2022.

IPART reduced WaterNSW's proposed total NRR from $517.6 million to $493.6 million and the customer share of the final decision totalled $350 million ($2020–21 dollars). IPART increased the customer share ratio for some of costs associated with WaterNSW's activities which also contributed to the increases in prices. The activities where the ratio increased were in water quality and monitoring, environmental planning and protection, dam safety and compliance and flood operations. The ratio for each of these activities increased from 50% customer share to 80% customer share. In aggregate, the customer share of WaterNSW costs increased from 83% to 84%. However, for Murray–Darling Basin valleys, prices are set under the Water Charge Rules 2010, which require that charges will likely raise revenue to meet efficient costs.[61]

Higher operational expenditure also contributed to increases in the WaterNSW component of the total charge, reflecting higher costs associated with maintenance, dam safety and fishway construction. IPART reduced WaterNSW's proposed total operating expenditure from $218.4 million to $203.5 million (down 7%). However, this figure in IPART's final decision was $8.8 million higher than its draft decision.[62]

WaterNSW overspent on capital expenditure by nearly $68 million during the previous price setting period. The overspend was mostly from increases in dam safety works to comply with the Dam Safety Regulations 2019.[63] IPART reduced WaterNSW's proposed capital expenditure from $363 million to $303.8 million (down 16.3%) for the 2021–21 regulatory period.

Review of Water Administration Ministerial Corporation's prices

Concurrent with the review of WaterNSW's prices, IPART also reviewed the WAMC prices for 2021 to 2025.[64] The WAMC price contains either 2 or 3 components, depending on the valley. These include the water management component, the MDBA component and the BRC component. The latter is paid only by water users in the Border valley. IPART's decision on WAMC charges are for increases in real terms of 2.5% per year for those valleys that are not at full cost recovery (FCR). Only the Namoi valley has reached FCR, so the water management charges will remain constant in real terms for water users.[65]

Regulated water users in the New South Wales Murray and Murrumbidgee regulated rivers pay 2 sets of MDBA charges. The first is a WAMC specific MDBA charge, and the second is the bulk water specific MDBA charge. WaterNSW collects all these charges.[66]

The MDBA charges specific to water users in the Murray and Murrumbidgee regulated water sources increased for 2021–22. The average price increase for high security (HS) water access entitlements (WAEs) in the Murray and Murrumbidgee regulated water sources will be 9%. The average price increase for holding general security (GS) is 1% and the average water usage price increase is 14%.

61 IPART, *Review of WaterNSW rural bulk water prices, from 1 October 2021 to 30 June 2025*, pp 103, 104, 125, accessed 17 March 2022.

62 IPART, *Review of WaterNSW rural bulk water prices, from 1 October 2021 to 30 June 2025*, pp 37, 39, accessed 17 March 2022.

63 WaterNSW, *WaterNSW Pricing Proposal to the Independent Pricing and Regulatory Tribunal – Regulated prices for NSW Rural Bulk Water Services 1 July 2021 to 30 June 2022*, 30 June 2020, p 64, accessed 17 March 2022.

64 IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 October 2021 to 30 June 2025, Final Report, September 2021*, 2021, accessed 15 March 2022.

65 IPART, *Fact Sheet – WAMC prices for Namoi regulated rivers*, 9 September 2021, p 1, accessed 17 March 2022.

66 Rule 9A of the Water Charge Rules requires an infrastructure operator to pass through these charges in a transparent manner and Part 4 of the Water Charge Rules sets out how they should be presented on a schedule of charges.

The Department of Planning, Industry and Environment (DPIE) proposed total MDBA contributions of $126.8 million (8% increase) from the total for the 2017 to 2021 price period. DPIE proposed bulk water specific MDBA costs of $104 million and IPART reduced this amount to $65 million (37.5% decrease).[67] The MDBA's submission to the price review stated the increase was not due to increases in program costs but that DPIE proposed assigning a greater proportion of its contribution to the MDBA from water users than in previous price periods.[68, 69]

In a break from previous practice, IPART established a building block model to determine the revenue requirement for the bulk water MDBA and BRC charges ($65 million for the MDBA and $2.5 million for the BRC). Previously, the WAMC specific and bulk water specific MDBA and BRC charges were included in prices based on forecasts of the NSW Government's annual contributions to the MDBA and BRC.[70]

Water users in the Murrumbidgee and Murray regulated water sources will still pay higher MDBA charges than other regulated rivers in New South Wales. The MDBA charges in those water sources are included in the WAMC or the WaterNSW bulk water charge. WaterNSW has improved transparency of its 2021–22 schedule of charges, with the WAMC charge across all valleys shown separately (unbundled).

67 The total MDBA contribution represents the specific MDBA charge applied to water users in the Murrumbidgee and the New South Wales Murray and the MDBA charges paid in the other valleys

68 MDBA, *Submission to IPART's draft report for the WaterNSW rural review*, April 2021, p 1, accessed 17 March 2022.

69 DPIE's proposal was for an 18% and 82% split of the costs between the WAMC determination and the WaterNSW bulk water determination respectively. In previous price views, the split was just over 42% and nearly 58% respectively. IPART split the allocation of MDBA costs between the WAMC determination and the WaterNSW bulk water determination by 29.2% and 70.8% respectively increasing the splits in previous reviews.
IPART, *Review of WaterNSW rural bulk water prices, from 1 October 2021 to 30 June 2025*, 2021, p 61, accessed 17 March 2022.

70 IPART, *Review of WaterNSW rural bulk water prices, from 1 October 2021 to 30 June 2025*, 2021, p 68, accessed 17 March 2022. This change means that instead of the total contribution being an operational expense, the actual expense comprises capital expenditure and operating expenses. A building block involves establishing a regulatory asset base (RAB) to determine revenues from which prices are derived. The RABs for the MDBA and BRC were set at zero from 1 July 2021; for June 30, 2025, the RAB value will be $14.6 million and $0.5 million respectively (real $2021–22).

04

Most ACCC typical bills for off-river operators increased in 2020–21, but modestly

Vines grown in Renmark Irrigation Trust 's network
Source: Courtesy Renmark Irrigation Trust

4. Most ACCC typical bills for off-river operators increased in 2020–21, but modestly

Key points

- The ACCC monitors regulated water charges across the Murray–Darling Basin (MDB) and calculates typical bills for 19 irrigation infrastructure operators (IIOs). Monitoring IIO charges, including calculating typical bills, makes these charges more transparent.
- Volumes delivered by IIOs jumped by 120% in 2020–21. This rise reflected improved water availability after the drought broke.
- In 2020–21, the majority (51%) of IIO typical bills increased. This result largely reflected changes in IIOs' off-river charges (not pass through charges).
- IIOs in Victoria continued to return the highest typical bills for both pressurised and gravity fed systems, at $30,162 ($121/megalitre (ML)) and $20,292 ($81/ML) respectively for 250 ML delivered.
- The cost of delivering one ML of irrigation water varied significantly across operators, ranging from a high of $221/ML in Lower Murray Water's pressurised Robinvale network to $15/ML in the gravity fed Eagle Creek Pumping Syndicate (in New South Wales).
- Twelve years of monitoring has revealed modest increases in IIO typical bills. For the period, the average aggregate change in IIO typical bills was an increase of around 9% in real terms for both 50% and 100% of water delivered, assuming 250 ML delivery.

For the past 12 years, the ACCC's monitoring of regulated water charges has included the use of typical bills to increase transparency of charging and compare charges across irrigation infrastructure operators (IIOs) in the Murray–Darling Basin (MDB). This chapter focuses on the 19 off-river IIOs the ACCC currently monitors, and reports on and describes the results of typical bills for these IIOs.[71]

- Section 4.1 describes why we monitor, how we construct our typical bills, and provides background on IIO charging arrangements.
- Section 4.2 sets out the key changes in the characteristics of the 19 reporting IIOs for 2020–21, including volumes of water delivered and any changes or upgrades to their networks.
- Section 4.3 presents the results of IIO typical bills for 2020–21, including total bills, components and changes since 2019–20.
- Section 4.4 describes the long-term IIO typical bill trends observed from 2009–10 to present, including changes in the contribution of different charge types to the total bill.
- Section 4.5 includes 3 case studies looking at IIO charging trends in the context of transformation, termination and IIO allocation trade trends.

71 The ACCC also collects pricing data and limited activity data from around 10 smaller irrigation infrastructure operators (IIOs) who generally hold or service 10 gigalitres (GL) or less. While typical bills are not constructed for these smaller IIOs, we use this the information to assess IIOs' compliance the Water Charge Rules 2010 and the Water Market Rules 2009.

4.1 Typical bills reflect IIOs' charge characteristics and tariff structures

An IIO is an entity or person that owns or operates water service infrastructure for delivering water for irrigation.[72] IIOs generally extract water from natural watercourses such as a river and deliver it to irrigators through their network of channels and pipes. These networks use either gravity or pressurised channels and pipes to deliver the irrigation water to end users. Figure 4.1 depicts the rural water supply and how water users access water in the MDB.

Figure 4.1: Rural water supply and how water users access water in the MDB

* Including irrigation rights, which can be transformed into a separate entitlement and traded to another person.

72 Irrigation infrastructure operator is defined in s 7(4) of the *Water Act 2007*. Other sources of income for IIOs in the MDB can include operating water trading exchanges for temporary and permanent selling tradeable water rights, plant and equipment hire and drainage services.

The ACCC monitors IIOs' regulated water charges and related matters because they operate in geographically exclusive areas for water harvesting, storage and delivery services, making it unlikely effective competition will develop. A lack of competition may lead to higher prices, lower service quality and less innovation when compared with what could be expected in a competitive market. IIOs may also be at risk of under-recovering costs, including to replace or upgrade their networks. Apart from Victorian IIOs, most charges for South Australian, New South Wales and Queensland IIOs are set by the operator without the involvement of an independent economic regulator. However, the ACCC's monitoring role does not encompass being able to require IIOs to provide information on their costs, total revenues or profits. Therefore, the ACCC is limited in its ability to comment on the cost reflectivity of charges, the implementation of user pays or the degree of cost recovery occurring for specific operators.

4.1.1 Volumetric charges are used by most operators to recover costs

IIOs use non-volumetric and volumetric charges to recover costs. However, most revenue is derived from volumetric charges. The ACCC's average typical bills for 2020–21 showed approximately only 4% of the revenue collected was derived from non-volumetric charges highlighting the importance of volumetric charges in IIO cost recovery.

Volumetric charges can either be fixed or variable, with most IIOs using a mix of fixed and variable volumetric charges to recover costs. Fixed volumetric charges are usually levied based on the irrigator's water delivery rights or water access entitlements (WAEs) held. The irrigator must pay fixed charges regardless of the amount of water delivered. Variable volumetric charges are typically levied according to the amount of water delivered. Average typical bills for 2020–21 showed volumetric charges accounted for around 57% of IIOs' revenue.[73]

In addition to fixed and variable volumetric charges for infrastructure access and water delivery, other charges IIOs may use to recover costs include:

- casual use charges, which allow irrigators and other customers to access additional delivery capacity beyond their water delivery rights
- non-volumetric charges based on the landholding size or number or size of irrigation outlets. Other examples of this type of charge include general administrative fees per account or property or meter fees
- drainage fees for removing excess surface or sub-surface water. Drainage charges are sometimes incorporated into other existing infrastructure charges but can be applied as specific drainage charges
- pass through charges, including bulk water suppliers' infrastructure charges and state government authorities' water planning and management charges. Some IIOs also levy pass through charges associated with membership of irrigator peak bodies.

4.1.2 Typical bills rely on key assumptions

Using the assumptions described below, combined with ongoing consultation with the IIOs on charging and changes, we constructed 36 IIO typical bills for 50% and 100% of water delivered. Our key assumptions to calculate IIO typical bills were as follows:

- Standard charges billed to customers included infrastructure access charges, water delivery charges, pass throughs of government charges and, where applicable, an account fee.
- Customers held irrigation rights or WAEs with an equivalent volume of water delivery right.
- Irrigation rights (or WAEs) held by customers were assumed to be either 50 megalitres (ML), 250 ML or 1,000 ML. Unless otherwise stated, the commentary on IIO typical bills assumes the typical irrigator held 250 ML of entitlements and received 100% water delivered.

73 The *Water monitoring report 2018–19* produced IIO typical bills for general security water access entitlement holders who received zero (or close to zero) water delivered. These IIO typical bills included only fixed charges relating to the number of water delivery rights held. These IIO typical bills differed from the normal outputs where the latter assumes either 50% or 100% of water was delivered. See Section 4.2 in the 2018–19 report. ACCC, *Water monitoring report 2018–19*, October 2020, pp 62–63.

- Water delivered to customers was assumed to be either 50% or 100% of the irrigation right or WAE held.
- Where a network serves customers with different entitlements classes, we based the bill on charges for customers holding general security entitlements unless otherwise stated.

Larger IIOs such as Goulburn–Murray Water (GMW), Lower Murray Water (LMW) and Western Murray Irrigation (WMI) generally have multiple networks and types (pressurised and gravity fed); we calculated IIO typical bills for each network. Smaller IIOs such as Buddah Lake Irrigators' Association and Tenandra Irrigation Scheme generally have one network; we calculated one IIO typical bill for these networks. Further information about how we build our IIO typical bills and the assumptions behind them can be found in the publication *Water monitoring report 2020–21: monitoring approach and assumptions*.

4.2 Drought impacts lingered in 2020–21 as IIOs upgraded networks and water availability improved in some parts of the Basin

Geography influences the operating conditions for operators, as can network characteristics, for example, the size and type of network. Operating costs and infrastructure works drive IIO costs. Volumes of water delivered can also drive costs, especially in pressurised networks, for example, through variable energy needs. Table 4.1 summarises changes in key characteristics of the 19 IIOs in 2020–21.

Five IIOs upgraded, restructured or rationalised their networks. GMW's upgrades were associated with the Connections Project and the Connections Reset Delivery Plan[74] and included 121 km of channel remediation and a meter modernisation program. Murrumbidgee Irrigation Limited (MI) upgrades included outlet and regulator upgrades and channel decommissioning. In January 2022, MI received approval for the NSW Murrumbidgee Irrigation Automation Project valued at $126.5 million and included upgrades to monitoring sites, automated regulators and channel renewal.[75] This project was funded under the Off-farm Efficiency Program which is a component of the Murray–Darling Communities Investment Package.

4.2.1 Irrigation water deliveries increased substantially in some IIO networks

As Table 4.1 shows, most IIOs reported increased water delivered in 2020–21, with the largest increases on the previous year's volumes concentrated in New South Wales. However, several IIOs reported no real change or a decrease, including LMW (down 0.4%), Marthaguy Irrigation Scheme (down 4%) and Jemalong Irrigation Limited (down 35%). Allocations in the Lachlan valley where Jemalong is located were 0% until October 2020, when they increased to 32%, ending up at 70% in June 2021.[76]

74 The Connections Project Reset Delivery Plan was prepared in response to the Mid Term Review (MTR) of Stage 2 of the Goulburn–Murray Water (GMW) Connections Project which concluded the Project needed to be reset. The Plan was developed with the core aim of ensuring delivery of the full 204 GL of water savings to the Commonwealth within the allocated budget. GMW, *Connections Project, Reset Delivery Plan summary*, 2021, accessed 31 January 2022.

75 Pitt, K., Ley, S., Anderson, K., & Davey, P., *Joint media release: Murrumbidgee $126 million project approved to deliver water savings under state-led Off-farm Efficiency Program*, 17 January 2022, accessed 31 January 2022.

76 Department of Planning, Industry and Environment, *Water Allocation Statements 2020*, 2020, accessed 28 January 2022.

4.2.2 New South Wales continued limited application of drought fee waiver

For the third consecutive year, the NSW Government waived fixed charges for general security (GS) licence holders and a limited number of high security (HS) licence holders. The drought fee waiver was capped at $4,000 per year. Previously it did not apply to most HS entitlement holders nor government entities. The NSW Government extended the waiver in 2020–21 to HS entitlement holders and stock and domestic entitlements in the NSW Border Rivers, Lower Namoi and Peel River systems.[77] We excluded these charges from the relevant IIO typical bills.[78] It is expected the NSW Government drought fee waiver will cease in the future due to the ending of the drought. With the inclusion of the previously waived fixed NSW Government fees, IIO typical irrigator bills for GS holders are expected to increase by between 5% to 50% would be expected based on charges reported for 2020–21.

77 The ACCC generally does not calculate IIO typical bills for networks that supply only irrigated water to stock and domestic purposes. An example of such a network is the Gunbar Private Water Supply Board. The ACCC also does not calculate IIO typical bills for networks in the Border Rivers, Lower Namoi and Peel River systems.

78 Department of Planning, Industry and Environment, *Available drought assistance in NSW*, 27 September 2021, accessed 31 January 2022. Because of the waiver, these charges were excluded from our IIO typical bills for general security holders for 2018–19, 2019–20 and 2020–21.

Table 4.1: Irrigation infrastructure operators—changes in characteristics, 2020–21

State	Areaa	IIO	Network type	Upgrade or restructure	WAE[b] (ML)	% change from 19–20	Conveyance WAE[e] (ML)	% change from 19–20	Volume delivered	% change from 19–20
South Australia	SA Murray[c]	CIT	Pressurised	No	106,365	-1%	1,187	2%	115,467	9%
		RIT	Pressurised	Yes	36,516	1%	–	–	33,268	3%
Victoria	Goulburn/ Victorian Murray	GMW[b]	Pressurised/ gravity fed	Yes	2,965,234	1%	253,648	16%	930,585	75%
	Victorian Murray	LMW	Pressurised/ gravity fed	No	104,736	11%	15,981	0%	100,292	0%
New South Wales	NSW Murray	Eagle Creek[b]	Gravity fed	No	12,659	-6%	800	0%	6,365	116%
		MIL	Gravity fed	No	993,422	-2%	279,786	0%	859,597	204%
		Moira[b]	Gravity fed	No	35,981	0%	5,728	0%	16,549	323%
		West Corurgan[b]	Gravity fed	No	75,138	-1%	–	–	21,701	476%
		WMI	Pressurised	Yes	33,551	-8%	–	–	25,098	1%
	Murrumbidgee	Coleambally	Gravity fed	No	356,072	-1%	117,342	0%	258,881	861%
		Hay	Pressurised/ gravity fed	No	3,811	-2%	–	–	1,954	329%
		MI	Pressurised/ gravity fed	Yes	904,613	-4%	183,870	0%	748,988	163%
	Lachlan	Jemalong	Gravity fed	No	77,085	-2%	17,911	0%	3,490	-35%
	Macquarie	Buddah Lake[b]	Gravity fed	No	21,376	n/a	–	–	5,243	473%
		Marthaguy[b]	Gravity fed	No	18,851	0%	–	–	1,428	-4%
		Narromine[b]	Gravity fed	No	35,803	-7%	4,224	0%	5,956	114%
		Tenandra[b]	Gravity fed	Yes	12,326	0%	1,390	0%	5,717	n/a
		Trangie–Nevertire[b]	Gravity fed	No	34,005	0%	–	–	10,628	107%

State	Areaa	IIO	Network type	Upgrade or restructure	WAE[b] (ML)	% change from 19–20	Conveyance WAE[e] (ML)	% change from 19–20	Volume delivered	% change from 19–20
Queensland	Condamine–Balonne	Mallawa	Gravity fed	No	9,701	n/a	–	–	86,982	59%

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; MIL = Murray Irrigation Limited; WMI = Western Murray Irrigation Limited; MI = Murrumbidgee Irrigation Limited.

a. Areas are based on the 29 surface water sustainable diversion limit (SDL) areas in the Basin Plan 2012.

b. The figures reflect the volume of WAE of a particular entitlement class held directly or serviced by the operator, noting:

- For GMW, the WAE volumes reported are those that sit within its bulk entitlements (held to supply water for customers water shares). They include the Ovens system high reliability water share but do not include spill entitlements. GMW stated there was no distinction between entitlements used in irrigation areas and by river diverters and therefore these are the total water share entitlement volumes. Excluded from this total are: bulk entitlements; water allowances; supply by agreement licences; take and use licences; and Ovens spill reliability entitlements.
- For joint water supply schemes (Buddah Lake, Eagle Creek Pumping Syndicate, Marthaguy Irrigation Scheme, Tenandra Irrigation Scheme and Trangie–Nevertire Irrigation Scheme), WAEs are jointly held by all customers, not by the IIO on behalf of members.

c. For South Australia Murray, high security = high reliability entitlement classes 1, 3a and 3b.

e. The Macquarie valley does not have a separate entitlement type for conveyance. The following IIOs reported they do not hold conveyance WAEs/licences including Eagle Creek Pumping Syndicate, West Corurgan Private Irrigation District, Western Murray Irrigation Limited and Hay Private Irrigation District.

Case study 4.1: New prices for Goulburn–Murray Water took effect

In November 2019, Goulburn–Murray Water (GMW) submitted a charging proposal to the Essential Services Commission Victoria (ESCV) covering the period from 2020 to 2024. The ESCV released its final decision in March 2020.

The ESCV approved revenue of $439.5 million over the period, which represented $65 million less in revenue than in its previous 4-year pricing period. The decrease was achieved by cost efficiencies arising from infrastructure modernisation[79] and GMW's business transformation program.[80] On average, GMW's charges and prices were predicted to fall by around 10% in 2020–21 and by 1% each year for the remaining 3 years.[81]

Changes to GMW's irrigation charges

Changes to GMW's charges that are relevant and applied to the ACCC's IIO typical bills included uniform pricing for its gravity fed networks, a decrease and uniformity in the infrastructure access and use charges, and simplified service point charging.[82]

Previously, GMW had 5 of its 6 gravity fed networks on a common delivery charge with Shepparton the exception. In the past, the cost of providing irrigation services to the Shepparton network was substantially higher than other gravity fed networks due in part to legacy issues including modernisation occurring without any rationalisation, and higher labour and maintenance costs.[83,84] GMW's network labour and maintenance costs in Shepparton were reduced by introducing an automated channel system.[85] Adding the Broken Creek customers to the Shepparton district was expected to spread costs across a larger delivery share base with limited additional operation costs.[86]

Decreases in the infrastructure use charges in GMW's gravity fed networks ranged from 33% for Shepparton to 2% for all other networks. Increases in the infrastructure use fee within pressurised networks (which are generally more expensive to run) ranged from 18% at Tresco to 5% at Woorinen. Generally, decreases in infrastructure access charges across GMW networks ranged from around 6% in the pressurised networks to 16% in gravity fed networks.[87]

79 Most infrastructure modernisation at Goulburn–Murray Water (GMW) occurred under the umbrella of the Connections Project which was previously called the Northern Victoria Irrigation Project. Funding for this project was provided by the Victorian and Australian governments and the aim was to modernise irrigation systems in the network. This included automating regulators, changing customer service points, and remediating and decommissioning channels. GMW, *Corporate Plan 2019–20 to 2023–24*, 2020, p 41, accessed 21 February 2022.

80 The GMW Transformation Working Plan was adopted in February 2019 in response to the recommendations of a strategic advisory board (SAP). The SAP reported GMW's business operations needed an urgent and significant transformation. Recommendations to streamline GMW's organisation and business included reducing operating and capital costs, strengthening its financial position, improving asset management, and renewing customer engagement. The SAP made 30 recommendations for GMW to transform its core business over the short, medium and long term. A 2021 audit confirmed all 30 of these recommendations had been addressed Department of Environment, Land, Water and Planning, *Goulburn–Murray Water Transformation Process Achievements Snapshot 2017–20*, 2021, pp 2, 4, accessed 23 February 2022.

81 Essential Services Commission Victoria, *Goulburn–Murray Water final decision – 2020 Water Price Review*, 3 June 2020, p iv, accessed 23 February 2022.

82 GMW, *Fact Sheet – Pricing Submission 2020–24*, May 2021, accessed 24 February 2022.

83 Essential Services Commission Victoria, *Goulburn–Murray Water Price Review 2016 – Final Decision*, June 2016, p 48, accessed 24 February 2022.

84 Aither, *2020 Goulburn–Murray Water Price Review: Tariff Reform – A review of Goulburn–Murray Water's proposed tariff reform – A Final Report prepared for the Essential Services Commission*, 6 March 2020, p 18, accessed 24 February 2022.

85 Aither, *2020 Goulburn–Murray Water Price Review: Tariff Reform – A review of Goulburn–Murray Water's proposed tariff reform – A Final Report prepared for the Essential Services Commission*, 6 March 2020, p 18, accessed 24 February 2022.

86 Essential Services Commission Victoria, *Goulburn–Murray Water final decision – 2020 Water Price Review*, 3 June 2020, p 28, accessed 23 February 2022.

87 The infrastructure access charge is a fixed fee that applies to all water delivery rights held. The infrastructure use charge is a variable fee that applies to all the water supplied (per water access entitlement).

Service point charges cover the cost of infrastructure that connects the irrigator to GMW assets. The new pricing structure treats all service points consistently by type of network. This charge was introduced in 2020 for all networks and will be offset with a reduction in the infrastructure access fee.[88]

Both GMW and ESCV stated reviewing tariffs required them to have regard to the ACCC's pricing principles, including:

- promoting the economically efficient use of water infrastructure assets
- ensuring sufficient revenue streams to allow efficient delivery of the required services
- giving effect to the principles of user pays relating to water storage and delivery in irrigation systems
- achieving pricing transparency
- facilitating efficient water use and trade in water entitlements.[89]

Analysis of GMW IIO typical bills

The ACCC applied the changes in formulating GMW's IIO typical bills (see Table 1). We liaised regularly with GMW over the past 12 years regarding its typical bills. Before 2020–21, we last significantly reviewed our approach in 2015–16. For 2020–21, GMW assessed our proposed typical bill changes and provided advice about the new service point charge regime. The new regime included applying extra service point charges to the previous year's bills.

GMW predicted overall costs would decrease by around 10%. ACCC analysis found the overall aggregate change would be 10% and that all GMW networks had overall decreases in typical bills of between 4% and 29%.

Table 1: GMW IIO typical bills, 2019–20 and 2020–21

Type of network	GMW network	2019–20	2020–21	% change
Pressurised	Tresco	$22,600	$21,349	–6%
	Nyah	$23,100	$22,068	–4%
	Woorinen	$22,776	$21,864	–4%
Gravity fed	Central Goulburn	$15,190	$13,706	–10%
	Loddon valley	$15,286	$13,637	–11%
	Murray valley	$15,808	$14,196	–10%
	Rochester	$14,956	$13,632	–9%
	Shepparton	$20,251	$14,449	–29%
	Torrumbarry	$15,615	$13,522	–13%
Total change	**All networks aggregate**	**$165,585**	**$148,425**	**–10%**

Source: ACCC from data provided and published by GMW.

88 GMW, *Fact Sheet – Pricing Submission 2020–24*, May 2021, accessed 24 February 2022.

89 Essential Services Commission Victoria, *Goulburn–Murray Water final decision – 2020 Water Price Review*, 3 June 2020, p 28, accessed 23 February 2022.

4.3 IIO typical bill increases in 2020–21 were generally modest

Typical bill changes over the past year are presented in nominal terms while changes over multiple years are presented in real terms.

4.3.1 The price of one megalitre of water delivered continued to vary significantly across operators and network types

This section presents IIO typical bill results in dollars per ML. Typical bills per ML for both pressurised and gravity fed IIOs continued to vary significantly for 2020–21 (Tables 4.2 and 4.3). The average typical bill per ML of water delivered for pressurised networks was $103, just under 1% above the cost in 2019–20 which is a drop in real terms (the consumer price index (CPI) was 1.6% during 2020–21). In contrast, the average IIO typical bill for gravity fed networks was 42% less at $60/ML.

Victorian pressurised systems average typical bill was $121/ML during 2020–21, 14% higher than those in New South Wales ($106/ML) and 45% higher than South Australian average bills ($83/ML).

Within gravity fed networks in Victoria and New South Wales, the difference was significantly greater with average typical bills 78% more in Victoria ($81/ML in Victoria and $46/ML in New South Wales).

The difference in average typical bills between network types reflects various factors, including network size (which can affect the potential economies of scale), the location and type of service, and the pricing methodology applied. Other factors include the extent of the IIO's recovery of capital costs and differing asset ages and conditions, input costs and irrigator subsidies. The lower gravity fed average IIO typical bill also reflects the impacts of the NSW Government's ongoing fixed fees waiver as part of its drought relief package, as well as the simplified charging structure adopted by some smaller IIOs with fewer infrastructure costs. The higher typical bill for pressurised networks reflects the larger capital costs for pipes and particularly pumps, and higher energy costs associated with pumping water.

Within network type, significant variation in per ML cost persisted

As noted above, large differences in the price of one ML of water delivered reflect a range of factors, including volume of water delivered, energy requirements and capital costs, network size and customer numbers, and the degree of cost recovery occurring. However, they only partly explain the variations in prices in similar type networks, which also reflects the impact of tariff structures and different economic regulatory arrangements.

Across pressurised networks LMW's Robinvale network still had the highest typical bill with $221/ML. Central Irrigation Trust (CIT) had the lowest bill at $65/ML for its low-pressure network (71% lower).

Within gravity fed systems, typical bills ranged from $149/ML for LMW's Mildura network to $15/ML for Eagle Creek Pumping Syndicate (Eagle Creek) (90% lower).[90]

Some IIO typical bills including for Murray Irrigation Limited (MIL), MI and Coleambally Irrigation Cooperative Limited (Coleambally) show the dollar value per ML in the typical bill declined as the volume of entitlement held increased. This result reflected the significance of non-volumetric charges for these IIOs.

90 A 2015 benchmarking study found LMW's relatively high per ML prices are due to several reasons. LMW's low- and high-pressure systems had considerably higher tariffs than other comparable networks and it is suggested the revenue collected from charges reflects higher total costs than for most of the networks benchmarked. The higher charges for LMW's pressurised Robinvale are due to considerably higher capital recovery charges than other comparable networks and reflect the regulatory framework within which LMW operates. The relatively high costs of operating LMW's gravity fed networks are due to infrastructure age, declining water delivery and increasing underutilisation.
Marsden Jacob Associates, *Lower Murray Water: independent benchmarking study of rural irrigation services, final report*, June 2015, pp 25, 44, 45.

Table 4.2: IIO typical bills per ML of water delivered—customers in pressurised networks, 2020–21

State	IIO	Network/ entitlement category	50 ML ($/ML)	250 ML ($/ML)	1,000 ML ($/ML)	Ratio ($/ML for 50 ML: $/ML for 1,000 ML)[a]
South Australia	CIT	High pressure	94	94	94	1.00
		Medium pressure	79	79	79	1.00
		Low pressure	65	65	65	1.00
	RIT		95	95	95	1.00
Victoria	GMW	Tresco	n/a	85	n/a	n/a
		Nyah	n/a	88	n/a	n/a
		Woorinen	n/a	87	n/a	n/a
	LMW	Robinvale	223	221	221	1.01
New South Wales	WMI	Curlwaa	69	69	76	0.91
		Coomealla	96	96	103	0.93
		Buronga	158	158	165	0.96
	MI	IHS–HS	135	100	93	1.44

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; WMI = Western Murray Irrigation Limited; MI = Murrumbidgee Irrigation Limited; IHS = integrated horticulture supply; HS = high security.

a. These ratios compare the dollar value of one ML for 50 ML of water delivered with the dollar value of one ML for 1,000 ML of water delivered. A value of 1 indicates one ML is of the same value for both volumes of water. A value greater than 1 indicates the price decreases as volume increases, and/or reflects the inclusion of outlet, account or other fixed charges that do not vary with volume held/delivered.

Table 4.3: IIO typical bills per ML of water delivered—customers in gravity fed networks, 2020–21

State	IIO	Network/ entitlement category	50 ML ($/ML)	250 ML ($/ML)	1,000 ML ($/ML)	Ratio ($/ML for 50 ML: $/ML for 1,000 ML)[a]
Victoria	GMW	Central Goulburn	n/a	55	n/a	n/a
		Loddon Valley	n/a	55	n/a	n/a
		Murray Valley	n/a	57	n/a	n/a
		Rochester	n/a	55	n/a	n/a
		Shepparton	n/a	58	n/a	n/a
		Torrumbarry	n/a	54	n/a	n/a
	LMW	Merbein	122	120	120	1.02
		Mildura	150	149	148	1.01
		Red Cliffs	131	129	129	1.01
New South Wales	West Corurgan		42	42	46	1.00
	Moira		42	42	44	0.95
	MIL	B1 Class C	79	35	29	2.77
	Eagle Creek		15	15	17	0.88
	Coleambally		43	24	20	2.12
	MI	Gravity fed–GS	74	36	29	2.53
		Gravity fed–HS	80	42	35	2.26
	Hay		93	63	58	1.61
	Jemalong		n/a	58	49	n/a
	Narromine		62	59	59	1.61
	Buddah Lake		47	47	48	0.98
	Trangie–Nevertire		57	57	58	0.99
	Tenandra		79	71	71	1.12
	Marthaguy		48	48	48	1.00
Qld	Mallawa		68	68	68	1.00

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

Notes: The table presents IIO typical bills from irrigators in gravity fed networks with 50 ML, 250 ML or 1,000 ML of irrigation right or WAE. We assumed 100% water was delivered in 2020–21.

GMW = Goulburn–Murray Water; LMW = Lower Murray Water; MI = Murrumbidgee Irrigation Limited; MIL = Murray Irrigation Limited; HS = high security, GS = general security.

a. These ratios compare the dollar value of one ML for 50 ML of water delivered, with the dollar value of one ML for 1,000 ML of water delivered. A value of 1 indicates one ML is of the same value for both volumes of water. A value greater than 1 indicates the price decreases as volume increases, and/or reflects the inclusion of outlet, account or other fixed charges that do not vary with volume held/delivered.

4.3.2 Around half of typical bills increased during 2020–21 driven by changes in off-river charges

Across all monitored IIOs in the MDB, the majority (51%) of typical bills for customers with 250 ML of entitlements (for both 50% and 100% of water delivered) increased during 2020–21.[91] This result contrasts with 2019–20 when 79% of typical bills increased. Of the bills that did increase during 2020–21, 86% increased more than the CPI.

Most changes in bills across both pressurised and gravity fed networks (whether they were increases or decreases) were driven by changes in off-river charges (79% of the absolute dollar change in typical bills). This was the case in 67% of IIO typical bills for pressurised networks and 82% in gravity fed networks. The *Water monitoring report 2020–21: supplementary spreadsheet* presents the annual change for IIO typical bills in pressurised and gravity fed networks.

Half of IIO typical bills increased in pressurised networks

In 2020–21, the ACCC observed the following results:

- Across all pressurised networks, 50% of IIO typical bills increased during 2020–21, substantially below the result for 2019–20 (79%).
- All pressurised networks in New South Wales had increases ranging from 5.5% at WMI's Coomealla network (for 100% of water delivered) to less than 1% at LMW's Robinvale network (for 50% of water delivered). The main drivers of WMI's higher typical bills were increases in both the water usage and access fees that rose by 6% and 5% respectively.
- Within Victoria, typical bills fell for all GMW's pressurised networks, with the largest at Tresco (down 7% for 50% of water delivered). As noted in Case study 4.1, these falls reflected its new pricing structure which it claimed would reduce prices by up to 10% for customers.
- LMW was the only Victorian network to report increases: a modest 1% (for 100% of water delivered).
- All CIT's networks in South Australia had minor decreases of less than 1% for 2020–21. CIT's usage and access fees fell by 1–4%.
- IIO typical bills rose by 2% for the pressurised network at Renmark Irrigation Trust for both volumes of water delivered.

Just over half of gravity fed IIO typical bills increased in 2020–21 with all increases above CPI

IIO Typical IIO bills increased for 52% of gravity fed networks in 2020–21, compared with 79% recording increases in 2019–20. All IIO typical bills that increased during 2020–21 rose by more than CPI.

- Results for GMW's gravity fed networks reflected changes to its pricing structure:
  - Apart from the Shepparton network, IIO typical bill decreases for GMW's gravity fed networks ranged from 9% in the Rochester network (100% delivered) to 14% at Torrumbarry (for 50% delivered).
  - GMW's Shepparton network recorded the largest decreases in typical bills, falling 29% for both 50% and 100% of water delivered.
  - GMW's Shepparton variable delivery charge dropped by 33%. Before the pricing change, GMW's gravity fed networks except Shepparton applied a common water delivery charge.
  - The ESCV's final decision approved the common delivery charge because GMW demonstrated costs across networks were significantly aligned, and the costs of servicing Shepparton compared with the other networks narrowed in recent years.[92]
- Mallawa Irrigation typical bills decreased by 9% for both 50% and 100% of water delivered. This decrease reflected Mallawa changing its charging structure.[93]

91 The IIO typical bill analysis in Section 4.3 includes bills for both 50% and 100% of water delivered to customers.

92 Essential Services Commission Victoria, *Goulburn–Murray Water final decision – 2020 Water Price Review*, 3 June 2020, pp v, 27, 28, accessed 17 February 2022.

93 Mallawa Irrigation, *Annual report 2020-21*, 2021, p 2, accessed 17 February 2022.

4.3.3 Off-river charges are still the most significant IIO bill component, remaining largely unchanged for 2020–21

From 2010 to present, off-river charges remained the most significant expense type in IIO typical bills. Off-river charges include usage as well as fixed charges based on entitlement held. Other items include administrative, service point and outlet charges.

During 2020–21, the significance of off-river charges was largely unchanged, accounting for 92% of typical bills in pressurised networks (up 1 percentage point from in 2019–20). The proportion across the MDB states was very similar, with New South Wales at 94%, South Australia at 91% and Victoria at 90%. WMI's Buronga network had the highest portion of off-river charges with 98% (for 50% of water delivered) while GMW's 3 pressurised networks had the lowest portion at 86%.

Within gravity fed systems, the share of off-river charges was 81% in 2020–21, unchanged from 2019–20. Off-river charges comprised 86% of typical bills for Victorian gravity fed networks in 2020–21 (the same as in 2019–20), while in New South Wales the share was 77%, up 1 percentage point.

Within Victorian gravity fed networks, the share of off-river charges in typical bills ranged from 81% for GMW to 91% for LMW. Across NSW networks, the significance of off-river charges varied greatly, with the largest proportion occurring at Hay Private Irrigation District (HPID) (92%) and the lowest at Jemalong (44%).

Charts 4.1 and 4.2 present the total IIO typical bills for pressurised and gravity fed systems by charge type. Charge types include IIO off-river charges, pass through charges from on-river infrastructure operators and water planning and management charges.

Pressurised networks typical bills remained virtually unchanged

Within pressurised networks, the average typical bill across all IIOs was $25,763 in 2020–21 ($103/ML), a rise of just under 1% since 2019–20. Victorian operators still have the highest average typical bill for pressurised networks, at $30,162 or $121/ML. The average typical bills for NSW pressurised networks were 12% less than for Victorian pressurised networks at $26,427 ($106/ML), while the South Australian average bill was $20,700 ($83/ML) and 31% below the Victorian average.

LMW's Robinvale network (in Victoria) again had the highest IIO typical bill at $55,367 ($221/ML).[94] Of the NSW pressurised networks, WMI's Buronga network had the highest average bill at $39,400 ($158/ML), 29% less than LMW's Robinvale. South Australia's most expensive network was CIT's high-pressure network at $23,409 ($94/ML), which was 58% less than LMW's Robinvale. CIT's low-pressure network still had the cheapest IIO typical bill for a pressurised network, at $16,333 ($65/ML) which is 71% less than LMW's Robinvale.

Gravity fed Eagle Creek continued to charge the least for network access and water delivery among reporting operators

The average IIO typical bill for 100% of water delivered for all gravity fed networks was $14,982 ($60/ML) in 2020–21, 42% lower than the average bill for pressurised networks and 2% less than in 2019–20. Victorian gravity fed networks had the highest average state typical bill at $20,292 ($81/ML), 33% less than Victorian pressurised networks. The average NSW typical bill was 48% less than the Victorian typical bill at $10,666 ($43/ML). While the NSW Government's drought relief package for general security holders partly explains this difference, it also reflects several factors including differing approaches to the level and recovery of capital costs and subsidies.

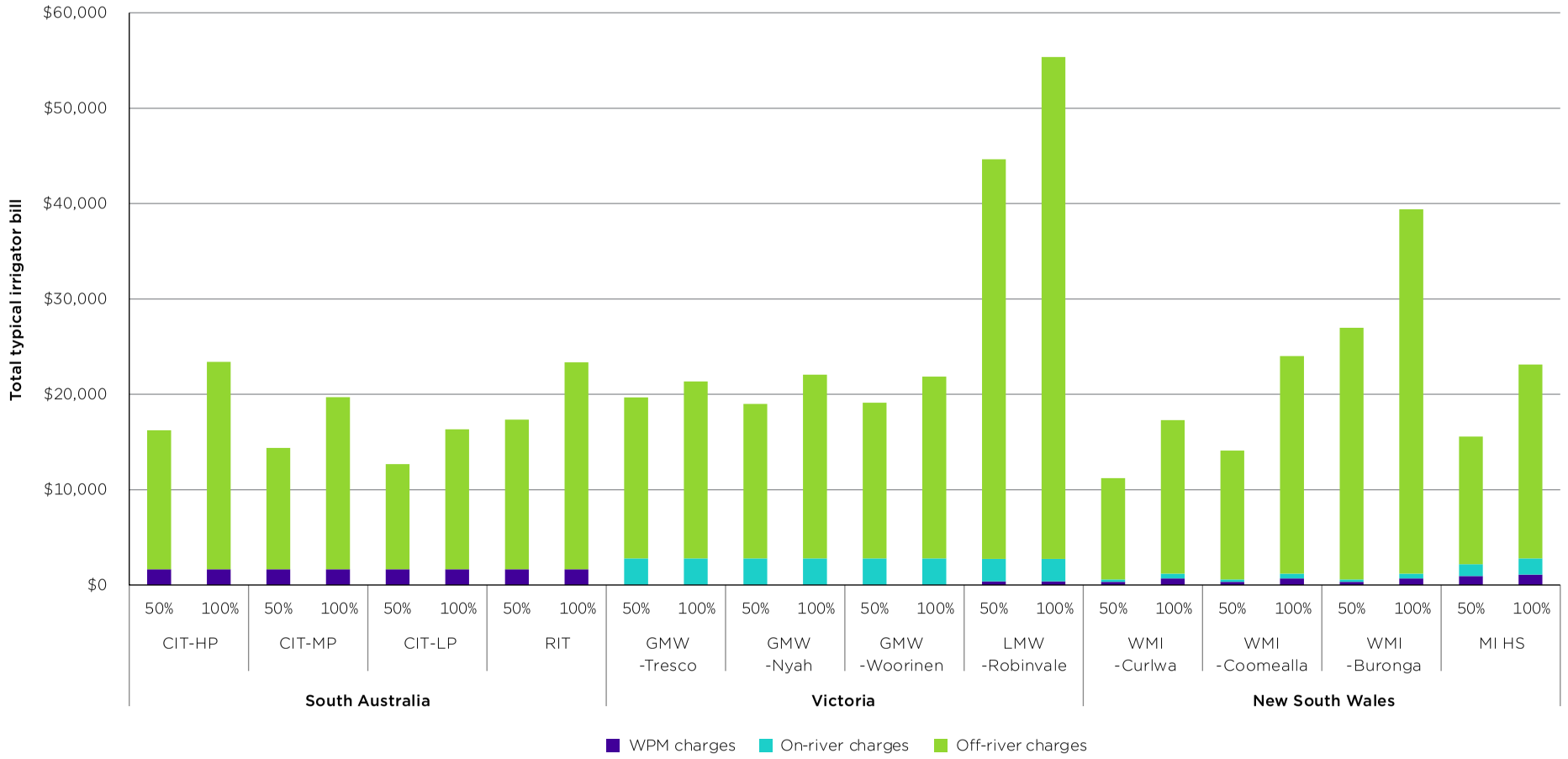
94 As noted previously, the required return on capital is a major cost driver for LMW's Robinvale system. The Marsden Jacob Associates benchmarking study found the regulatory asset value for Robinvale was substantially above equivalent LMW networks; Robinvale's return on capital was $1.4 million compared with $300,000 for the Mildura system. Interestingly, the same study noted Robinvale's costs were comparable with other networks and not a driver of the higher charges. Marsden Jacob Associates, *Lower Murray Water: independent benchmarking study of rural irrigation services, final report*, June 2015, pp ii, 44.

The largest gravity fed typical bill was at LMW's Mildura network at $37,181 ($149/ML).[95] The average IIO typical bill for all LMW's gravity fed networks was $33,161 ($133/ML), considerably above GMW's average for similar networks of $13,857 ($55/ML).

Eagle Creek again recorded the smallest gravity fed network typical bill, at $3,785 ($15/ML). This has been the case since ACCC monitoring began. This low value reflected Eagle Creek's lower usage and delivery right fees, particularly when compared with fees for other NSW Murray networks. Eagle Creek also has a simplified schedule of charges that excludes several charges including administrative, outlet and drainage charges.

95 Marsden Jacob Associates found capital recovery costs were not a major cost driver for LMW's low-pressure systems including Mildura. However, Mildura was the most expensive (total costs) low-pressure system by 'a considerable margin'. The level of infrastructure usage at Mildura is high, which also contributes to the higher operating costs.
Marsden Jacob Associates, *Lower Murray Water: independent benchmarking study of rural irrigation services, final report*, June 2015, pp v, 8.

Chart 4.1: IIO typical bills in pressurised networks for 250 ML entitlement at 50% and 100% water delivered (nominal), by charge category, 2020–21

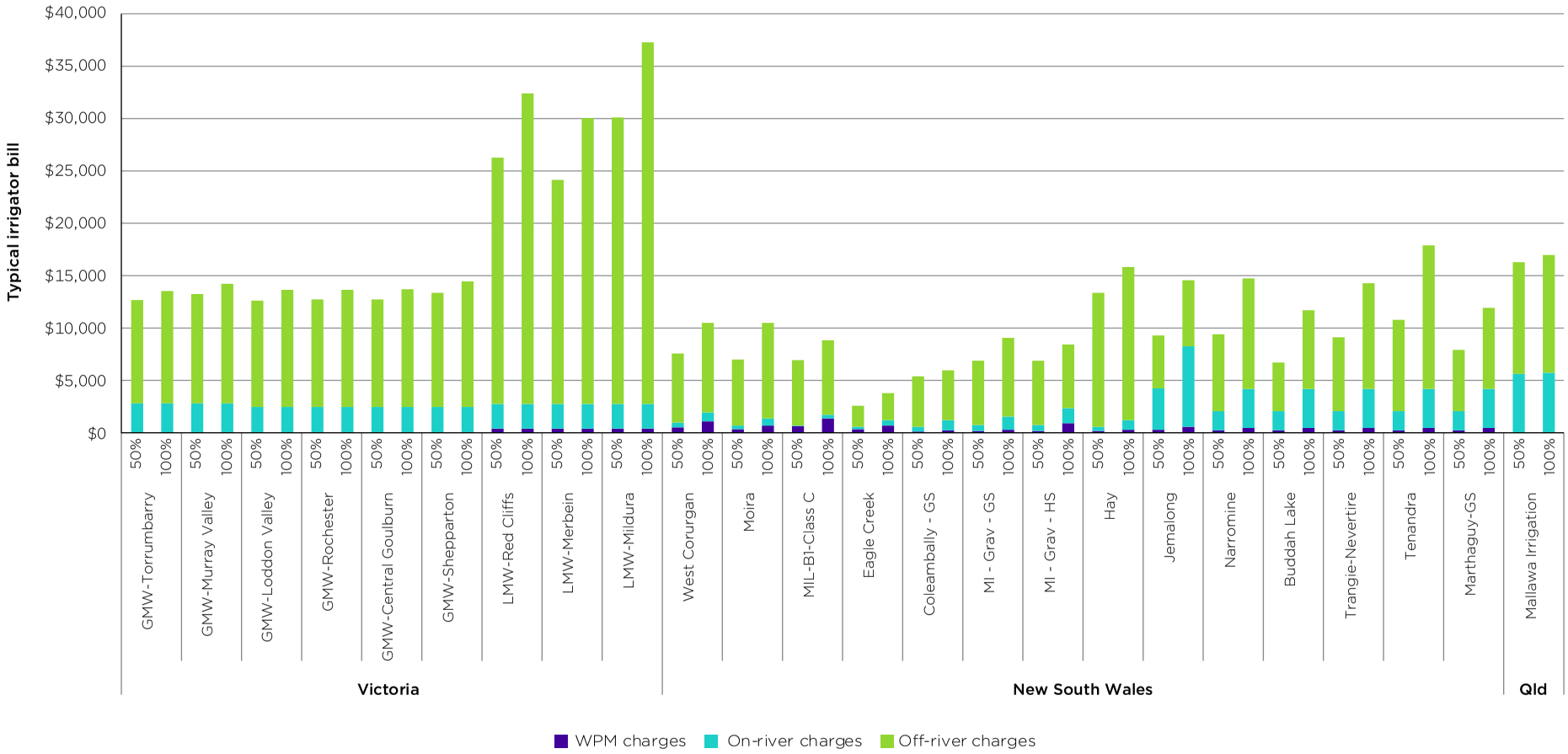


Source: ACCC from data provided and published by irrigation infrastructure operators.

Notes: CIT = Central Irrigation Trust; RIT = Renmark Irrigation Trust; GMW = Goulburn–Murray Water; LMW = Lower Murray Water; WMI = Western Murray Irrigation Limited; MI = Murrumbidgee Irrigation Limited; HP = high pressure; MP = medium pressure; LP = low pressure; HS = high security; WPM = water planning and management.

50% and 100% figures refer to the proportion of water under an entitlement delivered to the water user.

Chart 4.2: IIO typical bills in gravity fed networks for 250 ML entitlement at 50% and 100% water delivered (nominal), by charge category, 2020–21



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

Notes: GMW = Goulburn–Murray Water; LMW = Lower Murray Water; MIL = Murray Irrigation Limited; MIL-BI-Class C refers to B1—Berriquin irrigation district farms with access to surface drainage with capital payment still outstanding; Class C = general security; MI = Murrumbidgee Irrigation Limited; HP = high pressure, MP = medium pressure, LP = low pressure, HS = high security,
GS = general security; WPM = water planning and management; grav = gravity fed.

50% and 100% figures refer to the proportion of water under an entitlement delivered to the water user.Twelve years of monitoring shows modest increases in IIO typical bills

4.4 Twelve years of monitoring shows modest increases in IIO typical bills

The ACCC has produced IIO typical bills for the past 12 years. The following sections outline the changes in bill results across the period 2009–10 to 2020–21, including any changes in the composition of fixed versus variable charges and off-river versus on-river and water planning and management (WPM) charges. Over this period, around 64% of IIO typical bills increased in real terms. The total aggregate change in IIO typical bills was 10% for pressurised networks and 8% for gravity fed networks.

4.4.1 Most operator bills have increased since 2009–10

Over the past 12 years, the average aggregate change in typical bills was an increase of around 9% in real terms (for both 50% and 100% of water delivered). Since 2009–10, around 64% of all IIO typical bills have increased in real terms. The *Water monitoring report 2020–21: supplementary spreadsheet* contains the background data and charts for these sections.

Pressurised networks

The total aggregate change in typical bills for pressurised networks from 2009–10 to 2020–21 was 10% in real terms. Of the 24 IIO typical bills produced for pressurised networks, 75% increased over the same period.

The ACCC also observed:

- GMW's Nyah network had the largest increases in IIO typical bills since 2009–10, up 40% and 32% in real terms for 50% and 100% of water delivered respectively.
- All the South Australian pressurised networks had increases exceeding 15% in real terms over the same period. CIT's low-pressure network recorded the largest rise, up 19% in real terms for 100% of water delivered.
- The only decreases since 2009–10 occurred at WMI with 2 of its 3 networks declining over the period. The largest decrease was at its Curlwaa network, with a drop in real terms of 11% for 50% of water delivered.

Gravity fed networks

Overall, aggregate typical bills in gravity fed networks increased by 8% between 2009–10 and 2020–21. However, 42% of IIO typical bills for gravity fed networks decreased over this period. This decline largely reflected GMW restructuring its charges and the NSW Government drought relief package (which waived government fixed charges for general security entitlement holders).

Within Victoria, aggregate typical bills declined by 7% in real terms, with 78% of networks recording decreases in individual bills. Typical bills in NSW gravity fed networks increased by 6% in real terms and most (54%) bills increased over the period.

The ACCC also observed:

- Of the Victorian networks recording rises, the largest rise was at LMW's Mildura network, up 15% in real terms for both 50% and 100% of water delivered.
- While the NSW Government's drought fee waiver was partly responsible for many NSW networks having decreases over the period, a number of networks recorded substantial increases. Tenandra had the largest increase since 2009–10, with rises of 81% and 115% for 50% and 100% of water delivered respectively. As noted in the Water monitoring report 2019–20, Tenandra introduced new charges in 2015–16 after major modernisation and rationalisation of its network.
- Other large increases occurred at HPID (up 90% for 100% of water delivered) and Narromine (up 58% for the same volume of water).
- Of the 46% of networks whose typical bills declined, the largest occurred at MI's HS network with a decline of 39% for 50% of water delivered. This result partly reflected the NSW Government fee waiver.

- Other networks with substantial declines in typical bills over the period included Eagle Creek (down 34% for 100% of water delivered) and Coleambally (down 30% for 50% of water delivered).

4.5 Operator case studies show impacts of more than a decade of changes

The ACCC prepared 3 case studies to place individual IIO charging trends in the context of other changes during the period, including transformations, terminations and trade trends.

Case study 4.2: A snapshot of Lower Murray Water's operations

Lower Murray Water Urban and Rural Water Authority (LMW) is a corporation under Victoria's *Water Act 1989*. LMW's operational area ranges from Nyah in Victoria to the South Australia border and encompasses the municipalities of Mildura and Swan Hill.[96]

LMW's irrigation network comprises 4 irrigation districts: First Mildura, Merbein and Red Cliffs, which are gravity fed, and Robinvale, which is a pressurised network. Irrigators within these districts hold a total volume of 137 gigalitres (GL) of entitlements, with 92 GL in high reliability water shares (HRWS) and 13 GL in low reliability water shares. LMW holds 32 GL of bulk entitlement to supply town water. There are also 1,313 private diversion licences in LMW's area of operation, with holdings of 204 GL.

In 2016, LMW completed the Sunraysia Modernisation Project, replacing key sections of open irrigation channels with pipelines and automated pumping stations.[97] The project, jointly funded by the Victorian and Australian governments, returned 8 GL of water savings to the latter.

Irrigation activity in the Victorian Mallee, where LMW operates, has increased by over 40,000 hectares since 1997.[98] From 1997 to 2006, the dominant crop in the Mallee was grape plantings. Since 2009, almond trees have been the dominant crop, comprising 30% of the irrigable area (79,000 hectares). Since 1997, the number of hectares dedicated to almond tree plantations has increased by 1303%.[99]

Water holdings, volumes delivered and the price for delivery of one ML of water

With good winter and spring rains and the resulting inflows into storages during 2020–21 increased water availability for Victorian Murray water entitlement holders compared with 2019–20. Holders of HRWS received full allocation (100%) in mid-February compared with only 66% in April of the previous year, which was a drier year overall. The volumes of water carried over from 2019–20 into 2020–21 by holders of water shares serviced by LMW increased by 51%.[100] Total net carryover from 2019–20 was 5,375 GL and seasonal allocations for 2020–21 totalled 1,472 GL.[101]

96 Lower Murray Water now encompasses the operations of the original Lower Murray Region Water Authority, the Sunraysia Rural Water Authority, and, since August 2008, the functions, powers, and duties of the First Mildura Irrigation Trust. Lower Murray Water, *2020–21 Annual Report*, 2021, pp 2, 4, accessed 22 May 2022.

97 The $120 million Sunraysia Modernisation Program received $103 million in funding from the Australian Government, with the Victorian Government funding the remaining $17 million from the capital works budget for LMW. Victorian State Government, *Sunraysia Modernisation Project – Final Report*, 2016, p 1, accessed 14 July 2022. Australian Government, *Victorian State Government, LMW, SMP, Sunraysia Modernisation Project, interim final report*, 2016, pp 3–4, accessed 12 May 2022.

98 Mallee Catchment Management Authority, *Annual report 2018–19*, 2019, p 70, accessed 13 May 2022.

99 Mallee Catchment Management Authority, *2018 Mallee Horticulture Crop Report*, November 2018, accessed 13 May 2022.

100 Based on data collected from the Victorian Water Register. Department of Environment, Land, Water and Planning, *Victorian Water Register*, 2022, accessed 8 March 2022.

101 Based on data collected by the ACCC from the Victorian Water Register. Department of Environment, Land, Water and Planning, *Victorian Water Register*, 2022, accessed 8 March 2022.

LMW reported delivering just under 573 GL of water during 2020–21, an increase of less than 1% over 2019–20 (Table 1). Volumes for private diverters increased by 1% but were offset by decreases in water delivered to irrigation networks (down 1%) and urban water networks (down 3%). Since 2016–17, private diverter volumes have averaged 76% of LMW's water delivered. Deliveries to irrigation districts averaged 20% and urban water networks averaged 4%. Deliveries for environmental water holders has been less than 1% of LMW's total water delivered from 2016–17 to present.

LMW's prices are set by the Essential Services Commission Victoria (ESCV). LMW charges irrigation customers a mix of fixed charges (per ML of delivery share held), usage fees (per ML of water delivered) and a service charge. LMW also passes through Goulburn–Murray Water's (GMW) storage charges (also set by ESCV).

ACCC analysis shows the price per ML for water delivery in LMW's Red Cliffs irrigation district increased by 1% in 2020–21 to $129. Since 2013–14, the price per ML in this district has dropped 7% in real terms.

Table 1: Lower Murray Water water delivered, water access entitlements held and the price of one ML of water, 2013–14 to 2020–21

Year	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Water delivered (GL)[a]	487	526	600	500	574	605	570	573
WAEs held (GL)	n/a	109	122	117	113	108	108	105
Price per ML of water[b,c]	$139	$130	$128	$126	$125	$126	$128	$129

Source: ACCC from data provided by LMW.

Notes: a. Water delivered data based on bulk water deliveries reported by LMW.

b. Water access entitlements held excludes private diverters and town supply.

The price per ML of water was calculated from our IIO typical bills for 250 ML of water access entitlement with 100% water delivery for gravity fed general security entitlements. The prices per ML were representative of LMW's Red Cliffs irrigation district.

c. Price per ML is in real terms with 2020–21 as the base year.

The ESCV has commenced its review to set LMW's prices for the regulatory period of 1 July 2023 to 30 June 2028, releasing a guidance paper in October 2021. LMW's pricing submission is due in September 2022. The ESCV expects to release a draft decision in March 2023 and a final decision in June 2023.

Termination of water delivery rights

LMW's reported terminations doubled from 2019–20 and 2020–21, increasing to 8, the same as the long-term annual average of 8 (Table 2). Over the past 3 years, 93% of LMW's total volume terminated has been in the First Mildura Irrigation District (FMID). The volume terminated in 2020–21 increased nearly 3-fold on 2019–20 (from 117 ML to 432 ML). LMW advised terminations were driven by urban encroachment, predominately in the FMID and some smaller areas within the Merbein and Red Cliffs districts. Growing housing demand has seen rural properties developed into multi-lot urban properties. The increase in volume reflects the larger size of the terminating properties than in the past.[102]

102 LMW also noted these developments take multiple years to complete. Development would have started in prior years with no water usage on these properties generally occurring for years beforehand.

LMW also noted that for many terminations in 2020–21, low demand meant trading water delivery rights (WDRs) was not an option. The FMID network currently operates at about 50% of its capacity at the pump station. When a customer submits a 'Notice of Intent to Terminate Delivery Share', LMW investigates WDR trade opportunities. It undertakes a hydraulic assessment to determine whether other properties are hydraulically capable of accepting the terminating property's WDR volume and gives an 'opportunities map' as well as a quote for termination fees to the terminating customer. The customer pays the termination fees only when no-one else is interested in taking on the additional delivery share.

Between 2013–14 and 2020–21, the numbers and volume of terminations peaked in 2014–15, with 14 terminations and a total volume of 546 ML terminated.[103] Many of these terminations were due to decommissioning a spur pipeline that resulted in properties exiting irrigation. Decommissioning this pipeline was part of the Sunraysia Modernisation Project.[104]

Table 2: Lower Murray Water number and volume of terminations, 2013–14 to 2020–21

Year	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
No. of terminations	9	14	8	12	4	8	4	8
Volume of terminations (ML)	205	546	277	467	133	127	117	432
Average termination volume (ML)	23	39	35	39	33	16	29	54

Source: ACCC from data provided by LMW.

Water allocation trade trends

LMW customers have been net importers of water allocation since 2016–17, with trade volumes increasing annually to 2019–20 before decreasing in 2020–21 (Chart 1). As noted in the *Water monitoring report 2018–19*, these trends are largely driven by demand from private diverters,[105] particularly from growth in permanent horticulture in the Sunraysia region. Prevailing drier conditions in 2018–19 and 2019–20 also played a role.[106] Since 2016–17, allocation trade by LMW private diverter customers has averaged 86% of LMW's total reported trade.

A reported drop (23%) in LMW's total trade during 2020–21 partly reflected reduced water use by permanent horticulture due to cooler summer conditions.[107] High water availability also led to less reliance on the temporary water market. LMW reported decreases in the volumes traded by private diverters (23.5%) and irrigation network customers (19%).

Most water allocation traded into LMW districts came from GMW districts. During 2020–21, 67% came from GMW, 27% from New South Wales and 6% from South Australia.[108]

103 Before this period, the highest number of terminations at LMW occurred in 2009–10. There was a total of 90 terminations with a volume of just over 15 GL. The significant decrease in terminations since 2009–10 can be partly attributed to a combination of factors including the cessation of the Australian Government water access entitlement acquisitions and the dissipation of pent-up demand that existed before the Water Market Rules 2009 commenced.

104 The rationale for decommissioning the spur pipeline was due to expanding urban areas, particularly in the central areas of Mildura. This rendered existing areas of old, piped irrigation infrastructure redundant. Further, LMW claimed that these areas were leaky and therefore, costly to maintain.
Australian Government, *Victorian State Government, LMW, SMP, Sunraysia Modernisation Project, interim final report*, 2016, p 9, accessed 12 May 2022.

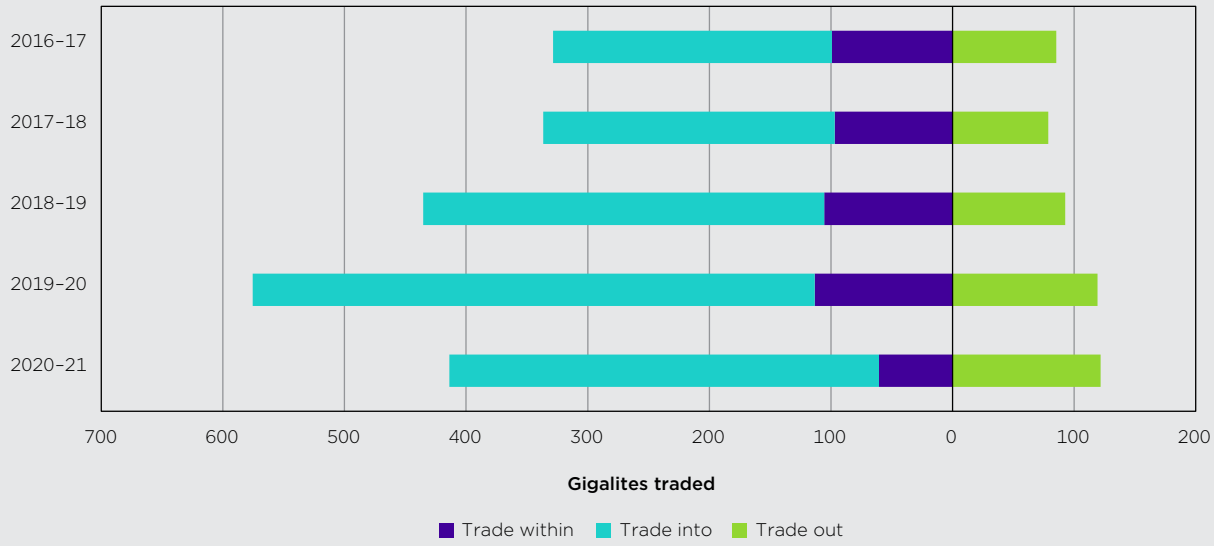
105 ACCC, *Water monitoring report 2018–19*, October 2020, p 25, accessed 12 May 2022.

106 Aither, *Water markets report 2018–19 and 2019–20* outlook, 2019, p 16, accessed 12 May 2022.

107 Aither, *Water markets report 2020–21 and 2021–22* outlook, 2021, p 16, accessed 12 May 2022.

108 Based on data collected by the ACCC from the Victorian Water Register.
Department of Environment, Land, Water and Planning, *Victorian Water Register*, 2022, accessed 8 March 2022.

Chart 1: Lower Murray Water trade direction, 2016–17 to 2020–21



Source: ACCC from data provided by LMW.

Case study 4.3: A snapshot of Coleambally Irrigation Cooperative Limited's operations

Coleambally Irrigation Cooperative Limited is in the Riverina region of New South Wales. Coleambally sources water from the Murrumbidgee River. It was privatised in 2000 and shares were transferred to entitlement holders who created a member-owned cooperative structure.[109]

Coleambally membership

Coleambally has 231 voting members and provides irrigation and drainage services to nearly 500 farms operating across 456,821 hectares.[110] Coleambally describes its members as mostly family farms with a range of scales and business structures.[111] Its irrigation water is used primarily for summer and winter crops of corn, cotton and rice, with irrigation services generally unavailable from mid-May to mid-August. This crop mix has changed from being dominated by rice to increased areas of cotton, maize and some permanent plantings.[112] Changes in water availability have partly driven planting decisions.

109 CICL, *Brief Overview of CICL*, 2021, accessed 7 March 2022.

110 CICL, *2020/21 Annual Report*, 30 June 2021, p 54, accessed 7 March 2022.

111 CICL, *CICL Submission to the ACCC Murray–Darling Water Markets Interim Report*, 6 October 2020, p 5, accessed 6 April 2022.

112 CICL, *Coleambally Irrigation Cooperative Limited (CICL) Submission to the ACCC inquiry into water markets in the Murray–Darling Basin*, 29 November 2019, p 7, accessed 6 April 2022.

Coleambally infrastructure upgrades and water returned the environment

Coleambally received funding from the Private Infrastructure Operators Program in New South Wales (PIIOP-NSW) under the Department of Agriculture, Water and the Environment. The PIIOP-NSW program aimed to improve the efficiency and productivity of water use and management of private networks to deliver water savings for the environment. Fourteen projects were funded over 3 rounds with total funding of over $850 million and total water savings of 211 GL which were returned to the environment.[113] Coleambally received combined funding of over $52 million to modernise infrastructure since 2009. This funding sought to improve the efficiency of off-farm irrigation systems, enlarge channel sections, and install FlumeGates and culverts. After 3 rounds of modernisation projects, Coleambally returned a cumulative 14.5 GL to the Australian Government. The infrastructure improvements are expected to return an average of 11.5 GL[114] of water every year to support the sustainable diversion limits in the Murrumbidgee catchment under the Murray–Darling Basin Plan.[115]

Water delivered, water access entitlements and the price for one ML of water delivered

Coleambally's water delivery over the past decade has been highly variable with a general downwards trend. In 2020–21, however, water delivered increased by 861% compared with the year before. This growth reflected above average rainfall, higher water availability with Coleambally's nearest water storages being almost full and the subsequent higher allocations.[116] Larger water delivery in 2020–21 substantially increased cropping areas. For example, the number of hectares planted in 2020–21 compared with the previous year resulted in considerable increases for rice (up 1,445%), corn (up 444%), cotton (up 571%) and wheat (up 686%).[117] The welcome rains began in August 2020 and led to a wetter than average summer in New South Wales during 2020–21.[118] Since 2012–13, Coleambally has delivered an average of 253 GL of water each year and delivered 259 GL during 2020–21.

Coleambally's volume of irrigation rights decreased by 13% to 356 GL in 2020–21 compared with 2019–20. Since 2013–14, its water access entitlement (WAE) holding has been declining (albeit slowly).

113 Department of Agriculture, *Water and the Environment, Private Irrigation Infrastructure Operators Program in New South Wales*, October 2020, accessed 17 May 2022.

114 This value is the long-term average annual yield (LTAAY) which estimates the variability of seasonal conditions and provides a consistent accounting system. The LTAAY does not alter entitlements.
Department of Agriculture, Water and the Environment, *Australian Government Water Recovery Programs in the Murray–Darling Basin: 2010–2019*, 16 April 2020, accessed 17 March 2022.

115 Department of Agriculture, Water and the Environment, *Private Irrigation Infrastructure Operators Program in New South Wales*, October 2020, accessed 7 March 2022.

116 The Murrumbidgee Valley is supplied by Burrinjuck Dam and Blowering Dam.
Australian Broadcast Corporation, *Dams are near capacity across New South Wales, with authorities monitoring flood risks and rain forecast*, 24 July 2021, accessed 17 May 2022.

117 CICL, *Annual 2021 Compliance Report*, October 2021, p 23, accessed 17 May 2022.

118 Bureau of Meteorology, *Monthly Water Update: Murray–Darling August 2020 Summary*, August 2020, accessed 16 March 2022.
Bureau of Meteorology, *New South Wales in summer 2020-21: wet and cool*, March 2021, accessed 23 March 2022.

Coleambally's price per megalitre (ML) during 2020–21 was $24, unchanged from 2019–20. While its price per ML has trended down over the past 9 years, this decline was largely associated with the NSW Government's drought relief package and the waiving of fixed fees from 2018–19 to present.[119] However, during 2015–16, the price per ML dropped 19%. This fall reflected a substantial reduction in the access fee, made possible by Coleambally's improved budget position due to sales of water obtained from water efficiency measures.[120]

Table 1: Coleambally Irrigation Cooperative Limited water delivered, water access entitlement and the price of one ML of water delivered, 2012–13 to 2020–21

Year	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Water delivered (GL)	496	311	308	184	323	264	104	27	259
WAEs held (GL)	n/a	398	381	373	372	369	362	361	356
Price per ML of water delivered ($)[a, b]	32	31	32	26	29	31	25	24	24

Source: ACCC from data provided by CICL.

Notes: a. The price per ML of water delivered was calculated from the IIO typical bills for 250 ML of WAE with 100% water delivery.

b. Price per ML of water delivered is in real terms with 2020–21 as the base year.

Transformation of irrigation rights

Coleambally processed 16 transformations during 2020–21 year, up from 8 in 2019–20. Coleambally customers transformed 5 gigalitres (GL) of irrigation right, up 168% from the 2 GL transformed the previous year. Volumes transformed ranged from 10 ML to 1 GL with most in the range of 200 to 500 ML. In aggregate, irrigators transformed around 38% of irrigation rights held, with 7 transforming all irrigation rights. Coleambally could not fully explain the increase in transformations because it is not required to ask for this information.

Table 2: Coleambally Irrigation Cooperative Limited number and volume of transformations, 2012–13 to 2020–21

Year	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
No. of transformations	53	89	58	24	43	12	15	11	11	8	16
GL of irrigation right transformed	21	19	10	8	17	8	1	3	9	2	5
% of irrigation right transformed	4.9	4.6	2.6	2.1	4.3	2.1	0.4	0.9	2.4	0.6	1.5

Source: ACCC from data provided by CICL.

119 The NSW Government waived the fixed charge component for general security (GS) entitlement holders, as part of its drought relief package. The drought subsidy was capped at $4,000 per year and did not apply to most high security (HS) entitlement holders nor government entities. Because of the subsidy, these charges have been excluded from our IIO typical bills for GS holders for the period 2018–19 to 2020–21.
Department of Planning, Industry and Environment, *Droughthub – Frequently Asked Questions – what drought assistance has the NSW Government announced?*, accessed 5 April 2022.

120 ACCC, *Water monitoring report 2015–16*, May 2017, p 109, accessed 5 April 2022.

The significant decrease in transformation applications since 2012–13 can be attributed to several factors, including the Australian Government no longer purchasing water entitlements for the environment through a tender process in 2021 and the dissipation of pent-up demand that existed before the Water Market Rules 2009 commenced.[121] During 2014–15, there was a substantial increase in the number of transformations (up 79%) and volume (up 113%). All transformations during 2014–15 were for all entitlements held and may have related to the PIIOP-NSW programs for Coleambally.

Termination of water delivery rights

During 2020–21, no Coleambally irrigators terminated their water delivery rights. This was also the case for 4 of the past 6 years. A low number of terminations have generally occurred each year since 2012–13. However, there were 31 terminations between 2010–11 and 2011–12. This result may have been associated with the pent-up desire for some irrigators to exit the industry.

Table 3: Coleambally Irrigation Cooperative Limited number and volume of terminations, 2012–13 to 2020–21

Year	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
No. of terminations	18	13	6	1	3	0	1	0	1	0	0
Volume of terminations (ML)	12,278	14,296	78	50	577	0	249	0	14	0	0
Average termination volume (ML)	682	1,100	13	50	192	0	249	0	14	0	0

Source: ACCC from data provided by CICL.

Water allocation trade trends in Coleambally

Total water allocation trade during 2020–21 was 332 GL, an increase of 141% from 2019–20 and the largest volume traded since 2013–14. This result is mostly due to the increased water deliveries during 2020–21. As noted, total water delivered increased from only 27 GL in 2019–20 to 259 GL in 2020–21. The most significant type of trade during 2020–21 was water traded out of Coleambally, accounting for 54% of the total allocation trade. During 2020–21, allocation trade was 128% of the actual water delivered, with 73 GL more water traded than delivered. Low water deliveries in 2019–20 meant total allocation trade was 763% of the water delivered (that is, trade allocation was 179 GL more than delivered). Coleambally's total allocation trade increased every year since 2017–18, with a significant rise of 61% from 2019–20 to 2020–21. CICL could not fully explain these trade trends because it is not required to ask for this information.

121 The Australian Government purchased water for the environment through open tenders from 2008 to 2015. It also used limited tenders to target specific entitlements till January 2020. The Hon Keith Pitt MP, Minister for Resources and Water announced in September 2020 that the Government would cease direct water buy backs from irrigators.
Department of Agriculture, Water and the Environment, *Surface water purchasing – open tender*, 26 August 2021, accessed 31 March 2022.
Pitt, K., *New Chapter in Murray–Darling Basin Plan centres on communities*, 4 September 2020, accessed 5 April 2022.

Table 4: Coleambally Irrigation Cooperative Limited allocation trade (GL), 2013–14 to 2020–21

Year	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Traded into network	43	39	17	13	45	23	6	17	41
Traded out of network	4	22	39	103	58	39	75	93	180
Traded within network	6	111	101	69	88	55	60	96	112
Total	**53**	**171**	**157**	**185**	**190**	**117**	**140**	**206**	**332**

Source: ACCC from data by CICL.

Notes: Figures rounded to the nearest GL.

In its submission to the ACCC's interim Murray–Darling Basin water markets report, Coleambally noted its members actively sell or buy annual allocation trade based on commercial returns. Further, it viewed its members as confident participants in the annual allocation water market.[122] However, barriers to participation in water markets may affect their participation. These barriers include irrigator knowledge of the different water markets products, the allocation system and trust of brokers.[123] Coleambally has been a net exporter of allocation out of its irrigation network.

Case study 4.4: A snapshot of Central Irrigation Trust's operations

Central Irrigation Trust (CIT) is a private company that manages the assets and operations of 12 member-owned irrigation trusts. CIT is situated in Barmera in the Riverland region of South Australia and sources water from the Murray River. The main crops grown in CIT's trusts include mostly permanent plantings of vines, citrus and deciduous fruits and nuts.[124] Formed in 1997, the Board is made up of a director from each of the 12 trusts and a chief executive officer. CIT provides irrigation water to approximately 1,400 customers operating across 13,000 hectares. It also supplies 3,200 industrial and non-potable water customers.[125]

Infrastructure upgrades

CIT uses pressurised pipelines to deliver water to the 12 member-owned irrigation trusts. Depending on an irrigator's location, the pressurised pipeline offers low, medium, medium-high, high pressure services and high-pressure high lift. The higher the pressure of water delivered, the higher the cost.

122 CICL, *CICL Submission to the ACCC Murray–Darling Water Markets Interim Report*, 6 October 2020, p 5, accessed 6 April 2022.

123 CICL, *CICL Submission to the ACCC Murray–Darling Water Markets Interim Report*, 6 October 2020, p 4, accessed 6 April 2022.

124 CIT, *Central Irrigation Trust submission for water markets in the Murray–Darling Basin*, 2019, p 1, accessed 17 June 2022.

125 CIT, *Information for Customers*, 3 August 2021, p 3, accessed 7 March 2022.

In 2011, CIT received $1 million funding from the Australian Government Department of Agriculture, Water and the Environment under the Private Irrigation Infrastructure Program for South Australia. CIT used the funding to upgrade Berri Pumping Station in exchange for transferring water entitlements to the Australian Government for environmental water purposes.[126] CIT received further funding for Irrigation Modernisation Planning Assistance in 2012 to review its districts, water sales and crop production trends.[127] From 2014 to 2019, CIT undertook further modernisation projects funded by the South Australian Government's Industry Irrigation Improvement Program (3IP).[128] It received more than $16 million in funding over this period.[129] CIT returned nearly 3 gigalitres (GL) of water to the Australian Government under all programs.

Water volumes delivered, water access entitlements and the price for one ML of water delivered

In the 9 years since 2012–13, water volumes delivered by CIT have remained relatively consistent at an average of 112 GL. During 2020–21, water delivered increased 10% to 115 GL which is the second highest amount since 2012–13. The volume delivered has ranged from 103 GL in 2016–17 to 121 GL in 2017–18 (Table 1). Volumes delivered remained consistent due to production levels stabilising following the Millennium Drought, along with good allocation announcements for South Australian entitlement holders. Further, CIT's customers largely irrigate high value perennial plantings, and their water requirements do not fluctuate markedly between seasons.

With transformations, CIT's holding of water access entitlements (WAEs) decreased by 1% from 2019–20 to 106 GL. Since 2012–13, CIT's WAE holdings have decreased by 18%. The largest drop occurred in 2014–15 (down 8%).

The price per ML of water delivered has remained consistent in real terms since 2012–13 for CIT's high-, medium- and low-pressure networks, based on ACCC IIO typical bills. Since 2012–13, the price of water delivered increased by only 1% for both the high and medium networks while the low-pressure network prices decreased 2% in real terms.

126 Department of Agriculture, Water and the Environment, *Private Irrigation Infrastructure Program for South Australia*, 4 November 2019, accessed 6 April 2022.
Department of Agriculture, Water and the Environment, *Sustainable Rural Water Use and Infrastructure Program*, 14 April 2021, accessed 6 April 2022.

127 The review was conducted to understand significant changes in the region after implementing the Murray–Darling Basin Plan and support sustainable diversion limits under the Plan.
CIT, *Central Irrigation Trust Annual Report 2011/2012*, p 2, 30 June 2012.
Department of Agriculture, Water and the Environment, *Irrigation Modernisation Planning Assistance*, 4 November 2019, accessed 31 March 2022.

128 This funding was an arm of the South Australian River Murray Sustainability Program (SARMS), which aims to support irrigators' productivity and sustainability while securing water resources for the environment. The Industry Irrigation Improvement Program component of SARMS cost $240 million and recovered 40 GL of water access entitlements for the environment from South Australian irrigators.
Department of Primary Industries and Regions, *Irrigation Industry Improvement Program*, 28 December 2017, accessed 6 April 2022.
Department of Primary Industries and Regions, *South Australian River Murray Sustainability Program (SARMS)*, 12 July 2016, accessed 6 April 2022.

129 The total amount of South Australian Government funding was derived from CIT's annual reports from 2014–15 to 2020–21. CIT, *Information & Factsheets*, 2022, accessed 30 May 2022.

Table 1: Central Irrigation Trust water delivered, water access entitlement and the price of one ML of water delivered, 2012–13 to 2020–21

Year	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Water delivered (GL)	118	108	109	113	103	121	118	105	115
WAEs held (GL)	134	130	120	113	114	109	108	108	106
Price per ML of high-pressure water delivered ($)	93	91	89	85	85	97	96	96	94
Price per ML of medium-pressure water delivered ($)	78	77	76	72	73	82	83	80	79
Price per ML of low-pressure water delivered ($)	66	64	63	61	61	67	68	67	65

Source: ACCC from data provided by CIT.

Notes: a. The price per ML of water delivered was calculated from the IIO typical bills for 250 ML of WAE with 100% water delivery. CIT advised the ACCC that 250 ML was not typical of a CIT customer. The ACCC does produce estimates of the cost of one ML of irrigation water for irrigators holding 50 ML (see Section 4.2.2).

b. Price per ML of water delivered is in real terms with 2020–21 as the base year.

Transformation of irrigation rights

CIT processed 34 transformations during 2020–21, down 28% from the previous year (47), with around 1 GL of irrigation right transformed. CIT could not explain this drop because it does not collect data on why irrigators transform. CIT's members transform their water entitlements for a variety of reasons, including business needs, personal circumstances, water prices and government projects. There were no changes to its internal policy that would have contributed to falling transformations.

Generally, CIT's transformations have trended down since 2012–13. The exception was a spike in 2017–18 where transformations increased by 197% to 89 and customers transformed 4 GL of irrigation rights (Table 2). CIT recorded substantial transformation activity before 2012–13. From 2009–10 to 2011–12, 469 transformations occurred, accounting for approximately 43% of all transformations reported by CIT since 2009–10 (and around 56% of all volume).

The reasons for this significant number of transformations included the Australian Government surface water purchasing scheme (2011) and the subsequent South Australian Government offer to buy water entitlements in 2009–10.[130] CIT expected many of its irrigators to take up government buy back of water entitlements and exit the industry (as occurred).[131] The decrease in CIT's applications for transformations after 2009–10 can be attributed to several factors, including the Australian Government no longer purchasing water entitlements for the environment through a tender process and the dissipation of the pent-up demand that existed before the Water Market Rules 2009 commenced.

CIT's irrigators have been relatively active in transforming either part or all their entitlements, compared with customers of other irrigation infrastructure operators (IIOs). Since 2009, of all operators the ACCC monitors, CIT reported the largest total number of transformations, with 1,093. This result is 176% greater than Murrumbidgee Irrigation (MI) which had the second largest number of transformations.

130 Department of Agriculture, *Water and the Environment, Surface water purchasing – open tender*, 2022, accessed 12 April 2022.

131 Australian Broadcasting Corporation, *Irrigator exodus 'to impact Riverland*, 17 September 2009, accessed 13 April 2022.

Renmark Irrigation Trust, another South Australian IIO, reported 235 transformations for the same period, 78% less than CIT's total.

Since 2009–10, irrigators in CIT have tended to transform either most or a small portion of their irrigation rights. Most transformations (36%) were for 75% to 100% of the irrigation right. This was closely followed by transformations of 0% to 25%, with 35% of all transformations.

Table 2: Central Irrigation Trust number and volume of transformations, 2009–10 to 2020–21

Year	2009–12[a]	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
No. of transformations	469	91	100	142	40	30	89	51	47	34
GL of irrigation right transformed	38	3	4	11	2	1	4	2	2	1
Average transformation volume (ML)	82	32	39	75	61	42	46	31	32	40

Source: ACCC from data provided by CIT.
Note: a. Refers to the years 2009–10 to 2011–12.

Although CIT reported the highest number of transformations, the total volume its customers transformed over the period was around 68% less than MI. The average volume for each transformation was 40 ML, substantially less than MI's average transformation volume of 117 ML.

With its high number and average volume of transformations, CIT continues to show reasonably different transformation trends compared with other similar sized IIOs such as Jemalong Irrigation Limited and West Corurgan Private Irrigation District.[132]

Termination of water delivery rights

During 2020–21, CIT had 4 customers who terminated some of their right of access to the water delivery infrastructure and one who terminated all their rights (Table 3). This result is the same number as for 2019–20 and 2018–19. However, the volume of terminations was 174 ML (up 71% from 2019–20).

Terminations were relatively consistent from 2012–13 to 2020–21, averaging around 9 a year. However, terminations were considerably higher from 2009–10 to 2011–12, averaging 80 per year. The largest number of terminations occurred in 2009–10 with 192.

The high numbers of terminations in the early years were primarily due to the Water Market Rules 2009 facilitating pent-up desire for irrigators to exit the industry.

Table 3: Central Irrigation Trust number and volume of terminations, 2009–10 to 2020–21

Year	2009–12[a]	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
No. of terminations	241	12	6	13	13	11	7	5	5	5
Volume of terminations (ML)	16,934	384	295	849	449	321	190	289	102	174
Average termination volume (ML)	70	32	49	65	35	29	27	58	20	35

Source: ACCC from data provided by CIT.
Note: a. Refers to the years 2009–10 to 2011–12

132 Total water access entitlements held by CIT were 106 GL compared with Jemalong (77 GL) and West Corurgan (75 GL).

Water allocation trade trends

Total water allocation trade during 2020–21 was 66 GL, down 11% from the year before. The most significant type of trade during 2020–21 was 'within the network', comprising 44% of total trade. During 2020–21, the volume of total water allocation trade represented 57% of CIT's water delivered. Net trade for 2020–21 was 5 GL of water into the network, in contrast with the other South Australian operator Renmark Irrigation Trust, which was a marginal net exporter in the same year (Table 4).

The period from 2013–14 to 2020–21 appears to have 2 distinct trends in trade. From 2013–14 to 2016–17, 'out of the network' trade was most common, accounting for 54%. The total net trade of water out during this period was 17 GL (or 34% of all water traded). In contrast, 'within the network' trade was most common from 2017–18 to 2020–21, accounting for 45%. Total net trade out over this period was –2 GL.

CIT stated it was one of the first areas to allow irrigators to trade water out of its region, while Victoria and New South Wales imposed caps on trade.[133] CIT does not collect data on why irrigators trade water allocations. According to CIT, these changing trends will, in part, be in response to lower water entitlement volumes held within CIT and increased volumes remaining in CIT held by non-irrigating owners. The result is an increasing internal market for water allocation. There were no internal policy changes that would have contributed to a change in trading trends.

Table 4: Central Irrigation Trust allocation trade (GL), 2013–14 to 2020–21

Year	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Traded into network	5	4	21	10	17	19	17	21
Traded out of network	24	29	22	32	16	12	22	16
Traded within network	11	17	5	20	23	27	35	29
Total	**40**	**50**	**48**	**62**	**56**	**58**	**74**	**66**

Source: ACCC from data provided by CIT.
Notes: Data not available for 2012–13.

133 Sutton, M, *SA irrigator move with the times – Farmonline National*, 11 May 2012, accessed 13 April 2022.

05

Basin states largely maintained spending on water planning and management despite revenue decreases

Curlwaa Pumping Station
Source: Courtesy Western Murray Irrigation

5. Basin states largely maintained spending on water planning and management despite revenue decreases

Key points

- Basin states agreed under the National Water Initiative (NWI) to pursue cost recovery on a user pays basis for their water planning and management (WPM) activities. The ACCC's monitoring of WPM charges helps improve transparency of this cost recovery.
- A Basin state's level of cost recovery has important implications. If revenue from WPM charges does not recover the costs of WPM activities, at least over time if not annually, the Basin state must cover the shortfall.
- We can only assess broad trends and make general observations about cost recovery because data from Basin states is limited. For example, WPM data are not always disaggregated from non-Basin spending or revenue data.
- Estimated cost recovery declined in South Australia and New South Wales in 2020–21. Rates of cost recovery have varied over the past 7 years, with steady revenue offset by varied spending on activities, reflecting that cost recovery is likely to occur over greater than annual timeframes.
- New South Wales' estimated cost recovery rate was almost 26% in 2020–21. Total WPM spending increased by 29% to $136.9 million, largely due to a $31 million increase in spending by the Department of Planning, Industry and Environment. Total WPM revenue increased 2% to $35.3 million.
- Victoria's estimated cost recovery rate was 20%. The state spent $152 million on WPM activities, an increase of 1% from 2019–20. WPM revenue did not change from 2019–20, at just under $30 million.
- South Australia's estimated cost recovery rate was almost 27%. WPM spending rose by 1% to $39.3 million, while revenue fell by 2% to $10.5 million.
- The Australian Capital Territory's estimated cost recovery rate jumped to 253% – the highest in 7 years. This estimate reflects aggregated urban and rural WPM spending and revenues. The high rate of estimated cost recovery is due to spending falling 75% to $12.3 million following the completion of key infrastructure projects. Total revenue fell by 10% to just over $31.2 million, reflecting a drop in the urban water abstraction fee.
- Total revenue reported by Queensland's Department of Regional Development, Manufacturing and Water decreased by 15% in 2020–21 to $2.8 million.

This chapter reports on the Basin states' spending on water planning and management (WPM) activities, WPM charges and revenues, and estimates their rate of cost recovery (based on data reported to the ACCC):

- Section 5.1 provides some background on Basin states' commitments to cost recovery for WPM activities and describes data limitations.
- Section 5.2 presents aggregate analysis of spending by all Basin states on WPM activities for 2020–21.
- Section 5.3 provides a state-by-state breakdown of WPM spending, the charges imposed, the revenue earned from these charges, and estimated rates of cost recovery for all Basin states except Queensland.

5.1 Basin states take differing approaches to water planning and management spending, charging and reporting

WPM activities include works undertaken by Basin states to plan for and manage water resources, including to ensure future sustainability.[134] Basin states use a variety of charges to recover the costs of WPM activities from water users. The ACCC analysis adopts the National Water Initiative (NWI) activity and revenue categories.[135] Activity categories include those relevant to water reform strategy and policy, water planning, water management, water monitoring and evaluation, information management and reporting, water administration and regulation, and water industry regulation. Individual activities do not always fit neatly into just one category, so Basin states classify each activity to the category that fits best to avoid duplication and ensure consistency with previous reports.

To recover costs, Basin states apply differing types of charges. These include water access charges, which can be fixed volumetric, variable volumetric or non-volumetric. Other charges include transaction charges (for example, trade requests) and broad-based levies (such as Victoria's Environmental Contribution levy).

Under the NWI, Basin states agreed to implement water pricing and institutional arrangements that achieve cost recovery for their WPM activities.[136] They also agreed to report publicly on the proportion of total WPM costs paid by water access entitlement holders, and how they determine that proportion. This disclosure helps users and governments assess whether the mix of WPM activities and charges is appropriate, given the costs of water use and who bears those costs. A Basin state's level of cost recovery from water users has important implications. If revenue from WPM charges does not recover the costs of WPM activities, the Basin state must cover the shortfall from consolidated revenue.

The Water Charge (Planning and Management Information) Rules 2009 were replaced by modified obligations in the Water Charge Rules 2010 (WCR). The original rules required Basin states to disclose the cost of WPM activities undertaken in the Murray–Darling Basin (MDB) where a charge was imposed to recover some or all those costs from water access entitlement holders. Under the new WCR, Basin states must list charges on a schedule, but no longer have to publish the costs of activities.[137,138] Basin states continue to report voluntarily on their WPM spending and are still required to publish information on their WPM charges.

Basin state departments and water authorities have practical challenges reporting WPM activity costs and revenues:

- It may be difficult to separate WPM costs from other costs.
- The level of some WPM charges does not clearly relate to the costs of WPM activities.
- Many WPM activities are delivered for the whole of a Basin state, and it can be impractical to allocate a portion of these costs to MDB areas.
- Cost recovery for WPM activities, especially capital expenditure, may take place over an extended period.

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134 For more information on what is a water planning and management activity see: Department of Agriculture, Water and the Environment, *Intergovernmental agreement on a National Water Initiative*, June 2004, pp 7–8, accessed 29 March 2022.

135 The National Water Initiative (NWI) provides a framework that classifies water planning and management activities. The NWI is a shared commitment by governments to increase the efficiency of Australia's water use and is built on the 1994 Council of Australian Governments (COAG) Water Reform Framework. National Water Initiative, *Pricing Principles*, 2004, accessed 24 January 2022.

136 Under the National Water Initiative, not all activities listed in the water planning and management activities framework will be fully recovered from water users. Charges for activities undertaken for the governments such as policy development and Ministerial or Parliamentary services are excluded. National Water Initiative, *Pricing Principles*, 2004, Point 13, p 14, accessed 24 January 2022.

137 *Water Charge Rules 2020* (Cth), Part 2, s 7(1)(a).

138 The ACCC recommended the change to no longer publish cost of water planning and management (WPM) activities. The water charge rules were not an effective policy tool to deliver the National Water Initiative's objectives relating to WPM cost recovery. In part, this is because the current legislative framework limits the scope of the rules to impose certain charges. ACCC, *Review of the Water Charge Rules Final Advice*, September 2016, p 303, accessed 18 May 2022.

For example, Victoria's Department of Environment, Land, Water and Planning (DELWP) cannot separate spending on WPM activities in the MDB from spending on WPM activities elsewhere in the state. In New South Wales, WaterNSW costs and revenue data are not limited to MDB areas, so overstates Basin-related costs and revenues. Department of Planning, Industry and Environment (DPIE) spending data is MDB-based, but the department cannot provide actual spending data at the valley level. Similarly, the Queensland Department of Regional Development, Manufacturing and Water cannot separate data for Basin areas, so does not provide WPM spending data.

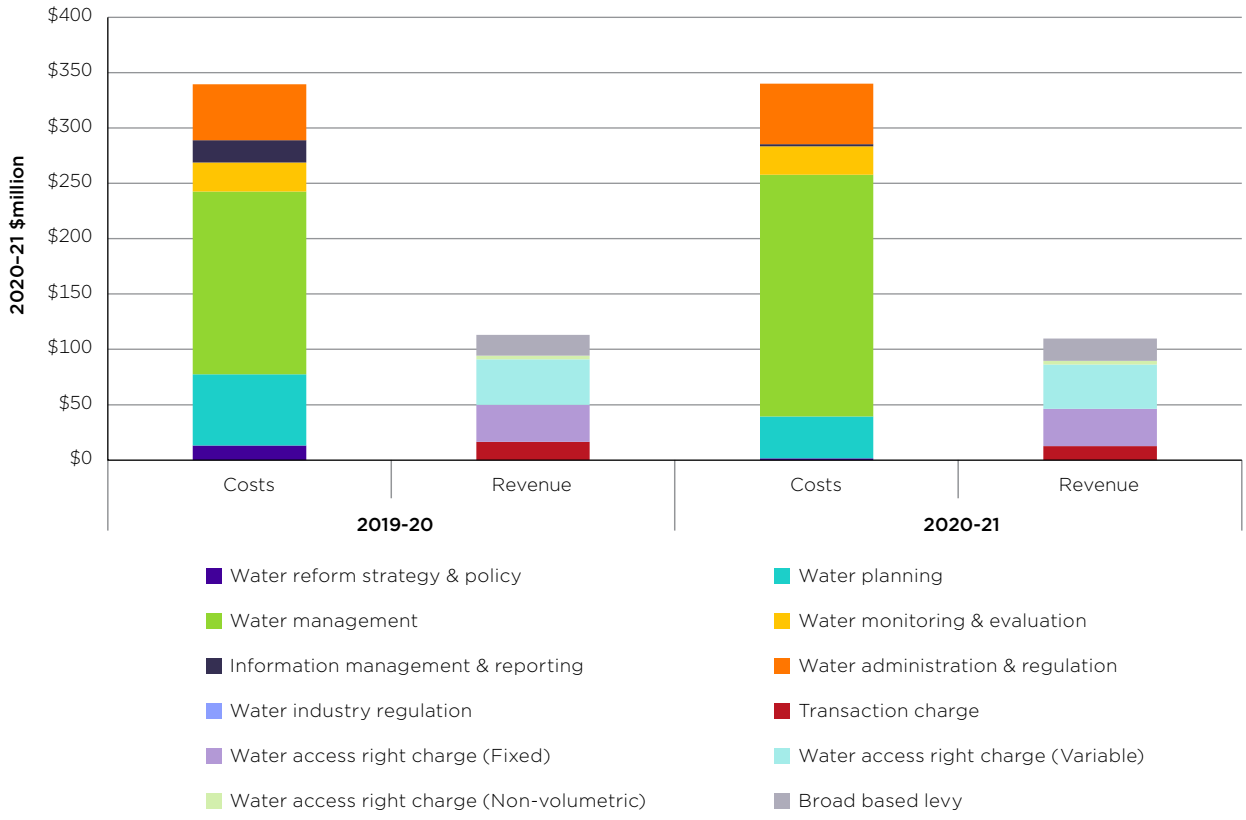
5.2 In 2020–21, Basin states largely maintained spending on water planning and management despite revenue decreases

This section presents aggregated WPM data reported by all Basin states for 2020–21. As noted above, the data is limited, so the analysis assesses broad trends in WPM spending and revenue. All data are presented in real 2020–21 terms.

In 2020–21, total WPM spending reported by Basin states was just above 2019–20 levels, increasing by less than 1% to $340 million. Spending on water management activities increased 32% to $219 million while spending on water planning decreased 42% to $37 million.

Total revenue from WPM charges decreased by 3% to $110 million, mainly reflecting reduced revenue in the Australian Capital Territory following falling urban water consumption (see below). Total revenue from transaction charges dropped 24% while revenue from variable entitlement charges decreased 3% (Chart 5.1).

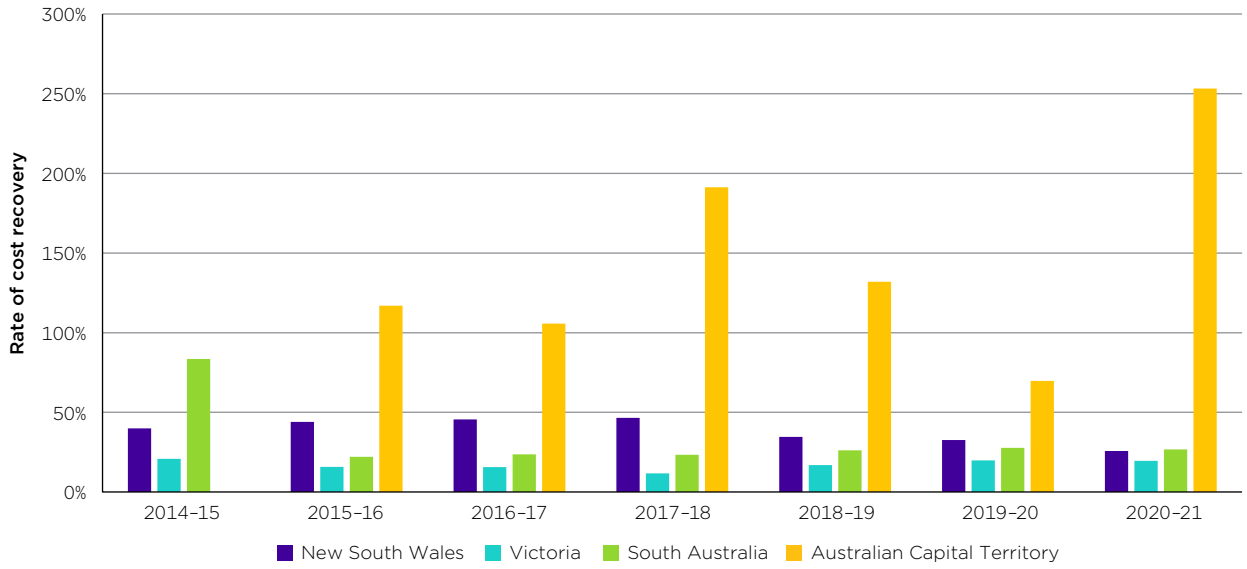
Chart 5.1: Aggregate water planning and management costs and revenues (excluding Queensland), by cost and activity type, 2019–20 to 2020–21



Source: ACCC from data provided and published by Basin state agencies, excluding Queensland.
Note: Real values in 2020–21 dollars.

The estimated rates of cost recovery varied over the past 7 years, sometimes considerably (Chart 5.2)

Chart 5.2: Rates of cost recovery for Basin states, 2014–15 to 2020–21



Source: ACCC from data provided and published by Basin state agencies, excluding Queensland.

Note: Real values in 2020–21 dollars.
Queensland's rate of cost recovery could not be calculated due to the absence of spending data.

Victoria has the most stable cost recovery rate, ranging from 21% in 2014–15 to 12% in 2017–18. The Australian Capital Territory's rate varied the most over the past 7 years, ranging from 253% in 2020–21 to 70% in 2019–20.

5.3 Individual Basin states mostly report increasing water planning and management spending and decreasing revenues

5.3.1 Water planning and management spending grows in New South Wales

Responsibility for WPM-related matters (among other water-related matters) in New South Wales is shared by WaterNSW and DPIE.[139] 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 infrastructure projects. While WaterNSW and the DPIE both perform WPM-related activities, revenue is collected by WaterNSW.[140] The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) sets charges for WPM activities for both WaterNSW and DPIE.

Total WPM spending increased by 29% to $136.9 million in 2020–21. WaterNSW's spending remained constant at $35.4 million for both 2019–21 and 2020–21. In contrast, DPIE spending grew by 44% to $102 million, the largest amount over the past 7 years.

139 Following the 2019 state government elections, several machinery-of-government changes came into effect including the Department of Industry combining with Planning and the Environment to form the Department Planning, Industry and Environment on 1 July 2019. Before this change, the NSW Government established the Natural Resource Access Regulator (NRAR) as an independent and transparent regulator with total carriage of the compliance and enforcement of the NSW Government. This occurred during 2018. The NRAR compliance functions were previously split between the Department of Industry (Water) and WaterNSW.
NSW Department of Planning and Environment, *Annual Report 2018–19*, 2019, p 6, accessed 30 March 2022.

140 As noted in the *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.

The most significant increase was on water management works, which rose by $22.2 million or 331%. Water management works include works to reduce the impact of water use or remediate watercourses by reducing erosion and salinity.[141] Most of the 2020–21 expenditure was related to Australian Government funded sustainable diversion limit adjustment mechanism (SDLAM) activities ($27 million), Included in this expenditure was capital expenditure of $15 million relating to SDLAM projects including the Yanco Creek modernisation project and sustainable diversion limit offsets in the Lower Murray. DPIE also increased spending by $4.8 million on compliance management by the Natural Resources Access Regulator (NRAR). The rise related to the increasing caseload at the NRAR including increased staff levels.

WaterNSW's revenues increased marginally by 2% to $35.3 million in 2020–21. The estimated cost recovery rate which compares WaterNSW's revenue with combined spending from the DPIE and WaterNSW was around 26%, the lowest over the period from 2014–15 to present. The highest estimated cost recovery occurred during 2017–18 when it was 47%.

5.3.2 Water planning and management spending increases marginally in Victoria

DELWP cannot separate spending on WPM activities that occur within the MDB from activities outside the MDB. So, WPM spending figures reported here relate to state-wide activities in Victoria. Further, they are inflated when compared with data reported for Basin states that can provide MDB-specific data. Victoria's main source of WPM revenue is the Environmental Contribution levy.[142] DELWP collects this from Victorian water authorities operating at least partly (or entirely) in the MDB. Because some of these authorities have operations outside the MDB, the MDB-related revenue from this levy could be overstated.

In 2020–21, Victoria's reported WPM spending increased marginally by 1% to $152 million. Most WPM activities are by carried out by DELWP, which reported 96% of all spending and collected 85% of all revenue reported for the year. Victorian water corporations also carry out some WPM activities and collected the remaining 15% of WPM revenue.

DELWP spending on WPM activities increased by 2% to $146.7 million. Much of this increase related to works making up the fifth tranche of the Environmental Contribution, which commenced on 1 July 2020 and committed $143.5 million of spending.[143] The fourth tranche concluded on 30 June 2020 and saw the completion of projects totalling around $140 million in 2019–20. Costs decreased for other WPM activities, such as salinity management and the Victorian Water Register ($575,000 and $183,000 respectively). Spending on WPM activities by water authorities fell by 11%, driven mostly by a 16% decrease from Goulburn–Murray Water (GMW). GMW accounted for 64% of all spending and collected 44% of all revenue reported by the Victorian water authorities.

Total WPM revenues in Victoria remained virtually the same as in 2019–20, at just under $30 million. DELWP's revenues increased by 2% to $25.6 million, while the revenues for Victorian water authorities decreased by 8% to $4.4 million. GMW's WPM revenues dropped by 19% to $1.9 million in 2020–21, driven largely by substantial decreases in revenue collected from groundwater licences (down 83%) and groundwater take and use licences (down 41%). Noting the data issues above, Victoria's estimated cost recovery rate was 20%.

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141 Department of Planning, Industry and Environment, *Pricing proposal – Submission to IPART for prices from 1 July 2021 for water management services provided by Department of Planning, Industry and Environment—Water and the Natural Resources Access Regulator on behalf of the Water Administration Ministerial Corporation*, p 43, June 2020, accessed 1 April 2022.

142 Victorian Environmental Contributions are funds collected from water supply authorities under the *Water Industry Act 1994* (Vic). Under a 2004 amendment to the Act, Environmental Contributions are collected to fund initiatives that seek to promote the sustainable management of water or address adverse water-related environmental impacts.
Department of Environment, Land, Water and Planning, *Environmental contributions*, 2022, accessed 30 March 2022.

143 Projects for the fifth tranche of the Environmental Contribution include reviewing the effectiveness of water markets across Victoria and identifying opportunities for future improvement and developing a long term, coordinated approach for improving water security across Victoria, including reforms to the water planning and management frameworks for the water sector.
Department of Environment, Land, Water and Planning, *Fifth tranche of the Environmental Contribution*, 2022, accessed 24 January 2022.

5.3.3 Water planning and management revenue decreases in South Australia

The South Australian Government replaced the *Natural Resources Management Act 2001* (SA) with the *Landscape South Australia Act 2019* (SA) on 21 November 2019.[144] The new Act commenced on 1 July 2020 and transferred responsibility for WPM activities and charges from the existing natural resource management boards to 8 new regional landscape boards and one urban landscape board.[145] The Department for Environment and Water works in partnership with the new boards to implement the 10-year State Landscape Strategy.[146]

South Australia's WPM spending increased by 1% to $39.3 million in 2020–21. An increase in spending of $2.3 million related to flood plain infrastructure, which was offset by a $1.1 million decrease in spending on water administration and regulation activities by South Australia's WPM Division.[147]

Overall, total WPM revenue collected in South Australia decreased by 2% to $10.5 million. The largest dollar decrease was from charges to transfer a water allocation relating to the River Murray prescribed watercourse, which decreased by $315,000 or 37%. In 2020–21, 85% of revenue came from water levies under the Landscape South Australia Act.[148] The revenue from these levies increased by just over 2% to just over $8.9 million. The levies are charged per ML of water used and per water access entitlement held.

South Australia's estimated cost recovery rate for WMP activities was almost 27%, one percentage point less than in 2019–20. In 2014–15, South Australia achieved cost recovery of 83%. After levies associated with the 'Save the River Murray Fund' were abolished in 2015, South Australia's cost recovery has remained between 22% and 28%.[149]

5.3.4 Water planning and management spending decreases significantly in the Australian Capital Territory

Spending on WPM activities in the Australian Capital Territory (ACT) fell by 75% to $12.3 million and represents the ACT's lowest spend over the period from 2015–16 to 2020–21. The result reflected completion of urban water infrastructure works for the new suburbs of Taylor and Whitlam. Around $6.4 million worth of other WPM capital projects were also not carried over into 2020–21.

Most funding for WPM activities in the ACT is derived from the water abstraction charge (WAC) (around 98%). The ACT Government increases the abstraction charge by 3% each year.[150] Despite this increase, in 2020–21 the ACT's reported total WPM revenue fell by 10% to $31.2 million, the lowest since 2016–17. The main driver was a decrease in urban water usage which led to a decline in revenue of around 12%. While urban usage fell, revenue from the WAC for surface water and groundwater extraction increased, with extraction volumes increasing from 129 megalitres (ML) to 1,963 ML.

The ACT's estimated cost recovery rate jumped to 253% during 2020–21: the highest level over the past 7 years. The increase was due to the significant drop in capital spending (which also included spending for non-MDB areas).

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144 Department for Environment and Water (SA), *Natural resources management – Changing NRM in South Australia*, 2020, accessed 13 January 2020.

145 The 8 new regional boards are representative of the following regions: Alinytjara Wilurara; Eyre Peninsula; Hills and Fleurieu; Kangaroo Island; Limestone Coast; Murraylands and Riverland; Northern and Yorke; and South Australia Arid Lands. Landscape South Australia, *Find your local board*, 2022, accessed 16 May 2022.

146 Landscape South Australia, *State Landscape Strategy*, 2021, p 4, accessed 16 May 2022.

147 The Department for Environment and Water (South Australia) WPM Division's administration and regulation activities include water licensing regulatory functions, customer service and metering associated with prescribed water resources and for the support, operation, maintenance and development of water licensing systems state-wide. This includes water licence, permit fees, metering charges and approval and other associated fees.

148 Water Levy (Division 2) – Prescribed Resources.

149 The Save the River Murray Fund was established in July 2003 and abolished in July 2015. The levy and program were to address the health of the River Murray in South Australia and were integrated with the larger Murray–Darling Basin program of works under the Basin Plan.
Save the River Murray Fund, *Annual Report 2014–15*, p 4, accessed 30 March 2022.

150 The annual increase reflects a decision made by the ACT Government, as part of the 2016–17 Budget Review process, to index the water abstraction charge by 3% per year from 1 July 2017.

5.3.5 Water planning and management revenue decreases in Queensland

As in previous periods, the Queensland Department of Regional Development, Manufacturing and Water could not provide spending data for 2020–21.[151] Further, like Victoria, total revenue includes some state-wide charges that cannot be separated from MDB-specific charges, so the figures overstate the total. Given that, we cannot assess changes in Queensland's spending on WPM activities or its cost recovery rates.

Regulated WPM charges are determined by the Queensland Government as per Schedules 12, 13 and 14 of the Water Regulation 2016 made under the *Water Act 2000* (Qld).[152] Schedules 12 and 13 cover meter-related charges as well as fees for various applications, lodgement and other miscellaneous fees: for example, fees to amalgamate or subdivide water allocations, water licence applications fee and fees for water registry lodgements. Schedule 14 covers water harvesting charges applying throughout Queensland including MDB and non-MDB areas, some of which are infrastructure charges.

During 2020–21, total revenue decreased by 15% to $2.8 million. Schedule 12 and Schedule 14 fees comprised virtually all of the total revenue reported. The revenue from Schedule 12 fees dropped 19% to $1.35 million and revenue from Schedule 14 fees fell by 14% to $1.42 million. Most charges increased by the consumer price index and the revenues from Schedule 12 fees fell, because of fewer transactions, while Schedule 14 revenues fell due to reduced water harvesting volumes.

151 Following machinery-of-government changes, the regulation of Queensland's water resources transferred from the Department of Natural Resources, Mining and Energy to the Department of Regional Development, Manufacturing and Water on 12 November 2020.
Department of Regional Development, Manufacturing and Water, *Annual Report 2020–21*, p 4, September 2021, accessed 31 March 2022.

152 *Water Act 2000* (Qld), Water Regulation 2016, accessed 31 March 2022.

06

Complaints and enquiries declined and the ACCC issued new guidance

Nuts grown within Murrumbidgee Irrigation's network
Source: Courtesy Murrumbidgee Irrigation

6. Complaints and enquiries declined and the ACCC issued new guidance

Key points

- Complaints and enquiries to the ACCC about water-related matters fell to 15 in 2020–21, with 12 complaints and 3 enquiries. This result was down from 26 in 2019–20 and 32 in 2018–19. It may reflect that the Water Market Rules 2009 (WMR) and the Water Charge Rules 2010 (WCR) (collectively, the Rules) have been in effect for 11 years and mostly work as intended. It may also reflect the ACCC proactively assisting infrastructure operators (IOs) to understand their new obligations under the WCR.
- The 3 enquiries were from IOs about their obligations under the WCR.
- None of the complaints related to the Rules. Six complaints related to compliance with the Australian Consumer Law (ACL).
- The ACCC conducted 6 initial investigations but found no breaches of the Rules or the ACL that resulted in significant detriment.
- One initial investigation arose from a complaint about a capital contribution levied by an operator. In 2022, the ACCC published guidance to assist stakeholders to understand infrastructure charge-related publication obligations under the WCR. The ACCC also published guidance about additional termination fees, which can be approved by the ACCC.
- In 2021, the ACCC conducted a compliance audit and engaged with 24 IOs regarding their obligations under the new schedule of charges requirements in the WCR.
- In 2021, the ACCC received its first application under the amended WCR for an exemption from an IO's obligation to publish certain charges on its schedule of charges. The ACCC refused this exemption application.
- In 2022, the ACCC issued guidance for applicants seeking an exemption from disclosing charges in a schedule of charges, and a compliance and enforcement guide for infrastructure operators on the water rules.[153,154]

This chapter reports on the ACCC's Rules-related compliance and enforcement activities and outcomes in 2020–21:

- Section 6.1 discusses complaints and enquiries received by the ACCC.
- Section 6.2 outlines our monitoring and enforcement activities.
- Section 6.3 describes our activities to support compliance with the Water Charge Rules 2010 (WCR).

6.1 Complaint and enquiry trends fell when compared with past years

The number of complaints and enquiries from water stakeholders fell in 2020–21 to 15 contacts (12 complaints, 3 enquiries), down from 26 in 2019–20 and 32 in 2018–19. This result continued a downward trend in complaints. Of the 15 contacts, 6 were complaints from irrigators and 6 were complaints from other stakeholders (including a lawyer acting for an irrigator). The remaining 3 were enquiries from infrastructure operators (IOs).

153 ACCC, Guidance for applicants seeking an exemption from disclosing certain charges in a schedule of charges, May 2022, accessed 14 September 2022.

154 ACCC, Compliance and enforcement guide for infrastructure operators on the water rules, September 2022, accessed 14 September 2022.

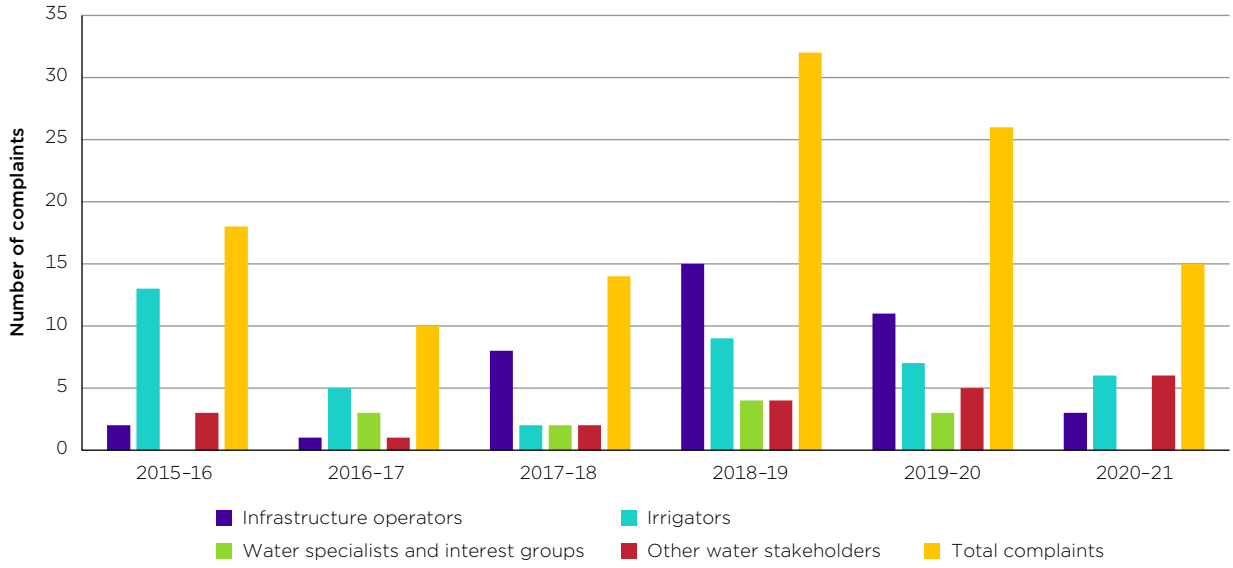
This decrease may reflect that the Water Market Rules 2008 (WMR) and WCR have been in effect for 11 years and mostly work as intended. The Rules seem to have addressed some of the problems they were introduced to overcome: irrigation infrastructure operators (IIOs) preventing or delaying the transformation of irrigation rights into water access entitlements, the magnitude of termination fees and the transparency of IOs' charges. However, there is still scope to improve performance on matters outside the Rules: for example, delays by state agencies (rather than IIOs) to process transformations.

The low numbers of complaints may also reflect proactive steps by the ACCC to help IOs understand their obligations, including following recent amendments to the WCR. As a result, irrigators and other stakeholders do not need to contact the ACCC about matters such as termination fees, IOs' schedule of charges obligations and the time IIOs take to process transformations.

In 2021, we conducted a compliance audit and engaged with 24 IOs regarding their obligations under the new schedule of charges requirements in the WCR. This work included assessing IOs' schedules of charges for compliance with the WCR and providing feedback to IOs about how to amend their schedule to comply. IOs were responsive to feedback and sought to improve their compliance with requirements which, in turn, improved the transparency and comparability of those schedules.

From August 2019 until February 2021, we conducted an inquiry into markets for tradeable water rights in in the Murray–Darling Basin. The inquiry may have drawn additional attention to our role in water given it received significant media attention and over 200 submissions. It may explain why stakeholder complaints and enquiries were higher in 2018–19 and 2019–20 than 2020–21. Indeed, several contacts received in 2018–19 and 2019–20 related to the operation of the water market, rather than the Rules.

Chart 6.1: Complaints and enquiries trends, 2015–16 to 2020–21



Source: Compiled by the ACCC.

6.1.1 All 3 enquiries were about WCR rule requirements

In 2020–21, as in past years, we received complaints and enquiries relating to a range of topics, some of which fell outside our role. Table 6.1 shows the nature of the complaints and enquiries received. The following results for 2020–21 are of note:

- All 3 enquiries were from IOs about their obligations under the WCR.
- None of the complaints related to compliance with the Rules.
- 6 out of the total (12) complaints related to the Australian Consumer Law (ACL), including allegations of misleading or deceptive conduct. We discontinued our enquiries after carefully considering these complaints.
- The other 6 complaints related to matters outside our role, including contractual disputes relating to billing and charging practices.

Table 6.1: Number of complaints and enquiries in 2020–21 by topic

What the complaint or enquiry was about	Complaints	Enquiries
Requirements relating to the WCR, including schedule of charges requirements	0	3
Conduct relating to the Australian Consumer Law, including allegations of misleading, deceptive, unconscionable conduct or unfair contract terms	6	0
Other (including irrigator contractual disputes, charging practices, billing disputes and water policy queries)	6	0
Total complaints and enquiries	12	3

6.2 ACCC investigations did not identify breaches resulting in significant detriment

The ACCC conducted 6 initial investigations related to water matters in 2020–21. Five initial investigations resulted from stakeholder complaints and enquiries, and 3 resulted from irrigators. One initial investigation arose from a complaint about a capital contribution levied by an IIO (see Box 6.1).

Box 6.1: Case study – IIO did not disclose capital contribution in its schedule of charges

In 2020–21, the ACCC received a complaint from an irrigator relating to a capital contribution that an irrigation infrastructure operator (IIO) levied on some customers.

An infrastructure operator (IO) must adopt a schedule of charges that sets out its infrastructure charges in accordance with Rules 11 and 13 of the WCR. However, the IIO's schedule of charges did not include the capital contribution in a way that complied with these requirements.

The capital contribution related to expanding the IIO's irrigation network and was covered by a deed of agreement the IIO prepared for some customers. Under the deed, the IIO had to issue delivery entitlements (water delivery rights) to customers who contributed financially to the works. The amount of delivery entitlements each customer received reflected their financial contribution.

Rule 3 of the Water Charge Rules 2010 (WCR) and s 91(1) of the *Water Act 2007* (Cth) mean that a charge levied by an IIO will be an infrastructure charge if it is paid to the IIO in exchange for:

- access to the IIO's network or services provided in relation to that access (s 91(1)(a)(i) of the Water Act) or
- changing access to the IIO's network or services provided in relation to that access (s 91(1)(a)(ii) of the Water Act).

After careful consideration, the ACCC formed the following views:

- The IIO's capital contribution was an infrastructure charge within the meaning of rule 3 of the WCR. This was because the deed stated the customer paid the capital contribution in exchange for a specified amount of delivery rights.
- The IIO's schedule did not comply with Rules 11 and 13 of the WCR in relation to the capital contribution.

We decided not to take further action if the IIO updated its schedule of charges to reflect the requirements of the WCR in relation to the capital contribution. Our decision reflected the complexity of the case, the relative newness of the amended WCR requirements and a lack of clear detriment in this case.

In 2022, we published guidance to help stakeholders understand when a one-off charge or 'capital contribution' will be an infrastructure charge under the WCR.[155] We also issued guidance about additional termination fees, which we can approve under Rule 73 (see Box 6.3).[156]

Box 6.2: Case study – IIO incorrectly passed through certain government charges to its customers

Under Rule 9A of the Water Charge Rules 2010 (WCR), infrastructure operators (IOs) must recover certain charges (ancillary charges) by levying one or more separate charges to recover (as far as practicable) the same total amount of the ancillary charges levied on the IO.

Ancillary charges are any infrastructure charges or planning and management charges levied on an IO (that are not network operation charges).[157] Usually, ancillary charges are government charges, for example, WaterNSW levies a bulk water charge (an ancillary charge) to recover costs associated with water delivery, customer support and metering.

In 2021, an irrigation infrastructure operator (IIO) incorrectly passed through some ancillary charges to its customers by one to 2 cents per megalitre. Customers who would have been overcharged the most overpaid by about $50 over the course of a year.[158]

The IIO was aware of the error when contacted by the ACCC. Due to the low level of detriment to customers, we decided to resolve the matter administratively by reminding the IIO in writing about complying with the WCR.

We continue to strategically monitor IOs' compliance with the Rules by assessing their responses to annual requests for information (RFIs). We detected no breaches in our 2020–21 investigations.

6.3 The ACCC published guidance on capital contributions and applications for exemption from publication obligations

The new WCR came into effect on 1 July 2020 and are based on our advice to the Minister from 21 September 2016.

The WCR aim to enhance pricing transparency and set out schedule of charges requirements.

Pricing transparency is an essential objective of the WCR because it:

- helps customers compare prices
- improves decision making in water markets and infrastructure service provision
- maximises customers' ability to participate in price-setting processes without undue regulatory burden.

155 ACCC, Guidance for infrastructure operators about capital contributions on a schedule of charges, August 2022, accessed 14 September 2022.

156 ACCC, Guidance for infrastructure operators about additional termination fees, August 2022, accessed 14 September 2022.

157 Network operation charges are infrastructure charges and planning and management charges levied on an IO (accounting for any discounts) on the basis of: water access rights held or used by the IO specifically for the purpose of meeting distribution losses; or infrastructure used by the IO to extract water from a watercourse or discharge water to a watercourse in the course of providing a service to the IO's customers. See: Water Charge Rules 2010, r 9A (9).

158 Based on a 1,000 ML general security entitlement holder that uses 100% of their allocated water, the ACCC estimated the most a customer would have been overcharged was about $50. The operator corrected all potential overcharging.

IOs in the Murray–Darling Basin must:

- publish and distribute a schedule of charges
- list all infrastructure charges on their schedule of charges, including details
- list planning and management charges.[159]

In 2021, we published an example schedule of charges and an 'FAQs' factsheet to help IOs comply with the new requirements.[160,161] In 2022, we published guidance on when:

- a capital contribution will be an infrastructure charge
- an IO or a customer can apply for an exemption from the requirement to include infrastructure charges specified in a contract between the IO and one or more customers in the IO's schedule of charges (see Box 6.3).

Box 6.3 The ACCC published guidance in 2022

Compliance and enforcement guide for infrastructure operators on the water rules

In 2022, we published guidance on compliance and enforcement guide for infrastructure operators on the water rules.[162]

This guide helps infrastructure operators (IOs) in the Murray–Darling Basin understand:

- the ACCC's water roles in the Basin
- the ACCC's approach to enforcing the Water Market Rules 2009 and Water Charge Rules 2010 made under the *Water Act 2007*
- how the ACCC will respond to possible contraventions of the rules and the *Competition and Consumer Act 2010*.

Capital contributions on schedule of charges

In 2022, we published guidance on when a capital contribution to an IO will be considered an infrastructure charge under the Water Charge Rules 2010 (WCR).[163]

This guidance helps IOs understand the kinds of charges that must be included on a schedule of charges, including one-off charges or 'capital contributions'. However, the requirement for each capital contribution and IO's schedule will vary depending on individual circumstances. The IO must ensure its schedule complies with the WCR and any other relevant obligation concerning the display of charges.

Additional termination fees

In some circumstances, when an IO and its customer have a contract involving capital works relating to the IO's water service infrastructure, we can approve an additional termination fee. In 2022, we published guidance about when an IO can apply for approval of an additional termination fee to recover this expenditure.[164]

159 Water Charge Rules 2010, rr 11–15.

160 ACCC, *Water Charge Rules 2010 – Example schedule of water charges*, December 2021, accessed 14 September 2022.

161 ACCC, *What the water charge rules mean for infrastructure operators and irrigators*, July 2020, accessed 14 September 2022.

162 ACCC, *Compliance and enforcement guide for infrastructure operators on the water rules*, September 2022, accessed 14 September 2022.

163 ACCC, *Guidance for infrastructure operators about capital contributions on a schedule of charges*, August 2022, accessed 14 September 2022.

164 ACCC, *Guidance for infrastructure operators about additional termination fees*, August 2022, accessed 14 September 2022.

Exemptions from disclosing certain charges on a schedule of charges

In February 2022, we published guidance for applicants seeking an exemption from disclosing certain charges in a schedule of charges.[165]

Rule 9 of the WCR allows an IO, or customer, or both the IO and customer jointly, to seek an exemption from the requirement to list charges in the IO's schedule of charges. An application can be made if the IO or customer believes, on reasonable grounds, that disclosing the details of the charges would result in a material financial loss or material detriment to the IO or customer. Any application must be made before entering into a contract.

The ACCC will consider whether the financial loss or detriment anticipated by the IO or its customers would result from disclosure of the charges, and then consider whether the financial loss or detriment is 'material' for the purposes of the WCR.

When deciding whether the alleged financial loss or detriment to the applicants is 'material', the ACCC will consider whether the alleged financial loss or detriment is of significant importance or consequence when considered against the objective of improving pricing transparency.

Under this approach, what might constitute material financial loss or material detriment to the applicants may not be considered material for the purposes of the WCR.

Our guidance aims to provide:

- applicants with information about the kinds of evidence that an IO or customer could provide to demonstrate that one or both would suffer a 'material financial loss or material detriment'
- customers and IOs with confidence about the process and reduce the uncertainty involved in applying for and obtaining an exemption
- timeframes for making an application and receiving a decision on exemption
- notice of our approach to considering exemption applications, including how we interpret materiality, financial loss and detriment.

For more information visit: https://www.accc.gov.au/regulated-infrastructure/water.

6.4 Amendments to the civil penalty provisions in the Water Act

In 2021, the Water Legislation Amendment (Inspector-General of Water Compliance and other Measures) Bill 2021 passed both houses of Parliament.

The amendments updated certain provisions in Part 8 of the *Water Act 2007* relating to civil penalties and infringement notices. It aligns them with the *Regulatory Powers (Standard Provisions) Act 2014* (Cth), which creates a framework for using civil penalties. In particular, the amendments related to changes to infringement notices:

- S 156(3) states a single infringement notice must relate only to a single contravention of a single civil penalty provision except in specified circumstances.
- Ss 157(2) and (3) effectively reduce the amount that can be specified as payable on an infringement notice per contravention of the WCR or WMR from 40 to 12 penalty units for an individual and from 200 to 60 penalty units for a body corporate.

165 ACCC, *Guidance for applicants seeking an exemption from disclosing certain charges in a schedule of charges*, May 2022, accessed 14 September 2022.

07

Monitoring makes regulated water charges more transparent and informs policy makers

Lake Mournpall in Hattah-Kulkyne National Park
Source: Staff photo

7. Monitoring makes regulated water charges more transparent and informs policy makers

Key points

- Irrigation infrastructure operators (IIOs) who supply water to irrigators generally operate in geographically exclusive areas where competition is unlikely to develop, so they are regarded as monopolies. In many industries, including water, monopolies can increase prices, and their service quality and innovation may diverge from efficient levels. From their monopoly position, IIOs may have an incentive to prevent or unreasonably delay trade or transformation requests and increase the cost of termination.
- The ACCC's monitoring provides information on infrastructure operators' (IOs) regulated water charges, and transformation and termination processes in the Murray–Darling Basin. Such monitoring helps make this information more transparent for customers and policy makers. However, our monitoring does not extend to assessing the efficiency of charges or service levels.
- The ACCC also helps facilitate effective water markets by monitoring and enforcing compliance with the Water Market Rules 2009 and Water Charge Rules 2010 (the Rules).

This chapter outlines the ACCC's monitoring objectives and how the ACCC fulfils its monitoring roles under the *Water Act 2007* (the Water Act):

- Section 7.1 provides information about the objectives of our monitoring.
- Section 7.2 describes our process for preparing this report.

7.1 Objectives of monitoring under the Water Act

The Water Act establishes the ACCC's monitoring role in the MDB, including monitoring regulated water charges and transformations.[166] The Water Act also directs us to report to the Minister on the findings of our monitoring.[167] The 2020–21 report is the 12th edition.

7.1.1 Monitoring regulated water charges improves transparency

The ACCC monitors regulated water charges, transformation arrangements and compliance with the Water Charge Rules 2010 and the Water Market Rules 2009 (the Rules). The ACCC monitors these activities and related matters because infrastructure operators (IOs) operate in geographically exclusive areas for water harvesting, storage and delivery services, making it unlikely effective competition will develop. Because of this, they are regarded as natural monopolies. IOs may have market power, as they do not face any effective competition from other operators for water delivery services in the relevant region. The extent of that market power depends, in part, on how essential the IO's infrastructure is to those seeking to use it. As monopolies that are not constrained by competition, operators may limit their service levels. They may also under- or over-invest in their infrastructure and may lack incentives to operate efficiently or to adopt innovative technologies and service models. Such actions could hamper productivity and lead to efficiency losses to the detriment of their customers. A lack of competition may also lead to higher prices, lower service quality and less innovation when compared with what could be expected in a competitive market.

166 'Regulated water charges' refers to charges defined in s 91 of the *Water Act 2007* and encompasses charges payable to an irrigation infrastructure operator for access to the network. Regulated water charges also include bulk water charges and water planning and management charges.

167 *Water Act 2007*, s 94(2).

Reporting of IOs' regulated water charges (including typical irrigator bills) helps to increase transparency. Our monitoring also allows for the release of data and information that would not otherwise be available to water market participants and other interested parties in the MDB. For example, the ACCC's monitoring improves consumer understanding by providing information about pricing practices and allows for comparisons against other networks. Ultimately, this information can promote more efficient allocation of resources among water users.

The MDB water market is geographically extensive with significant value. It covers over 1 million square kilometres, covering parts of 5 states and territories and is home to around 36,000 agricultural businesses. Of those businesses, around 7,300 of them are directly involved in irrigation.[168] ABS figures from 2019 estimated that the total gross value of irrigated agricultural production (GVIAP) in the MDB was around $8.6 billion, representing 49% of all GVIAP in Australia.[169] In 2021, water entitlements in the southern MDB were estimated to be worth $27 billion, with an average turnover of $1.8 billion in those water rights markets.[170]

In such a diverse and large market where all IOs are monopolies, the ACCC's monitoring supports the Water Act's objective of promoting efficient use of the MDB's resources. Transparency of pricing is an important component of these objectives. Pricing transparency can help irrigators understand their future costs and liabilities and compare typical bills across operators. However, the ACCC does not collect data to review the efficiency of the charges or service levels of IIOs.

There are some limitations in monitoring. Typically monitoring is limited in its ability to address behaviour that is detrimental to the market and consumers, particularly as a longer-term measure where the threat of regulation is diminished. Monitoring does not directly restrict operators from increasing prices or allowing service quality to decline. It also does not provide the ACCC with the ability to intervene in the conditions of access to operators' infrastructure. Additionally, the data collected does not allow the ACCC to assess whether monitored operators are earning economic returns that are consistent with the degree of risks they face or they have been operating efficiently.

7.1.2 Monitoring transformation and termination arrangements helps identify barriers to trade

The ACCC is also required to monitor and enforce the Water Charge Rules 2010 and the Water Market Rules 2009 (the Rules), which set out requirements relating to transformations and termination fees.

The transformation process allows water available to a customer under an irrigation right to be held, as a water access entitlement, directly by the customer or traded to another person. In this way, transformation can facilitate water trade by providing an individual with greater control over the timing, quantity and location of water trade. Termination allows the customer to reduce their right of access to the water delivery network and their ongoing liability for fixed charges. Together, transformation and termination can mean less water is delivered within a network and IIOs may ultimately end up with fewer customers contributing to the costs of running the network. These outcomes may give IIOs an incentive to prevent or unreasonably delay trade or transformation requests and increase the fees for terminating.

The Rules and the ACCC's enforcement of these Rules help limit the ability of IIOs to prevent or delay transformations and trade. In particular, the Water Market Rules 2009 regulate IIO transformation processing times, and the Water Charge Rules 2010 set a maximum on the termination fees that can be imposed. Monitoring termination fees and transformation processing times helps the ACCC enforce these Rules.

168 Australian Bureau of Statistics, *Water use on Australian Farms 2019–20*, May 2021, accessed 8 April 2022.

169 Australian Bureau of Statistics, *Gross Value of Irrigated Agricultural Production 2017–18*, May 2019, accessed 8 April 2022.

170 Aither, *Water markets report, 2020-21 review and 2021-22 outlook*, 2021, p 5, accessed 8 April 2022.
ACCC, *Murray-Darling Basin water markets inquiry – Final report*, March 2021, p 80, accessed 11 April 2022.

7.1.3 The ACCC's compliance monitoring helps enforce the Rules and assess policy impacts

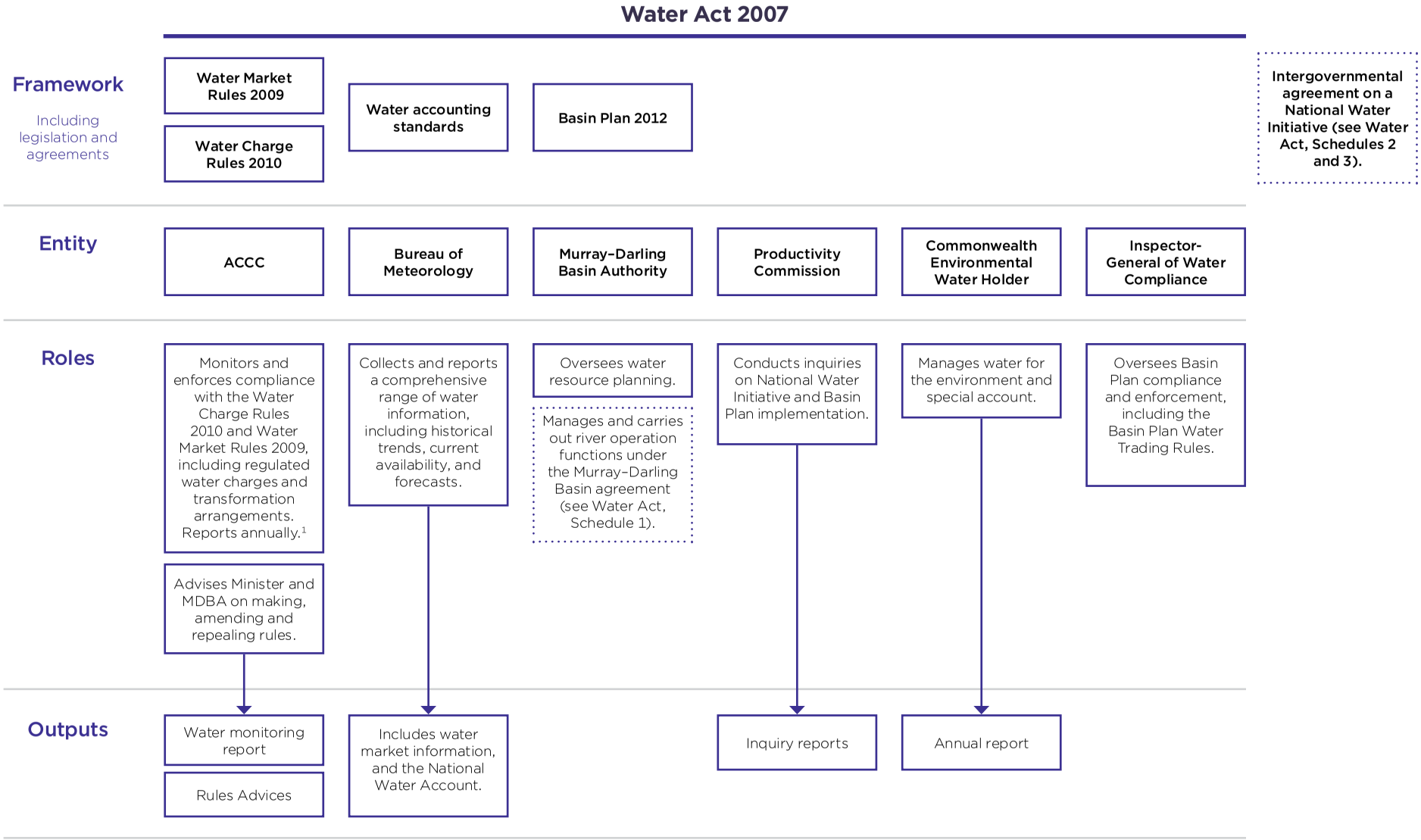
The ACCC collects information directly from IOs to monitor compliance with the Rules. It also receives and examines complaints and enquiries from irrigators and other stakeholders, and information published by other government agencies.

The data gathering process helps identify instances of noncompliance with the Rules. Publishing instances of noncompliance can also alert readers to potential breaches of the Rules. Publishing compliance outcomes may also act as a deterrent.

The Rules that we enforce do not cover wider water market regulation, nor obligations on water brokers or other water market participants. Laws set by the Basin states establish the legal entitlements to water and determine whether those rights can be traded under state laws. These state trading rules sit alongside the Commonwealth Basin Plan water trading rules which apply a framework for governing the trade of water access rights across the MDB.

The Rules also require IOs to publish information on fees and charges imposed by, or on behalf of, governments relating to water planning and management activities. We also enforce IOs' and water market intermediaries' compliance with the *Competition and Consumer Act 2010* (CCA), including the Australian Consumer Law (ACL). This includes prohibitions against anti-competitive conduct under the CCA, and fair-trading requirements as specified in the ACL. Lastly, the Rules set requirements, particularly about the schedule of charges, relating to the fees and charges payable to IOs for their services. Chart 7.1 provides background on the key functions by agency in the MDB.

Chart 7.1: Key functions provided by Australian Government agencies who have a role in the Murray–Darling Basin



Note: This diagram refers to key functions provided by the specified agencies but is not a comprehensive list of all their water functions.

1 Regulated water charges include fees or charges payable to an irrigation infrastructure operator for: access, changing access or terminating access to its irrigation network; bulk water charges; and charges for water planning and management activities. See s 91 of the *Water Act 2007* for a full definition.

7.2 Sources of information for this report are extensive

The ACCC uses multiple data sources to prepare this report, including:

- information provided in response to requests for information that are sent to 39 IOs, Basin states and one territory with 37 responding[171]
- IIOs' schedules of charges and other policies from their websites (if available)
- enquiries by, complaints about and contacts with IIOs, irrigators and industry participants, including water brokers and peak associations
- data, reports and other publications from government agencies such the Murray–Darling Basin Authority, the Australian Government Department of Agriculture, Water and the Environment, the Australian Bureau of Agriculture and Resource Economics and Sciences, the Bureau of Meteorology, the Australian Bureau of Statistics, the Australian Government Department of Industry, Science, Energy and Resources, the Victorian Water Register and WaterNSW
- academic literature, independent consultancy reports and media articles.

7.2.1 We use the information collected to assess trends and report our observations

The ACCC uses data collected from IOs and Basin state agencies to build typical bills for certain IIOs. From this process, we can identify changes in typical bills over time and the reasons for those changes. Given the considerable differences in IIOs' charging structures, comparing individual charges can be problematic. However, our typical bills do allow for more meaningful comparisons among IIOs and across years on the charges for delivered irrigation water.

Other information collected from IIOs includes numbers and volumes of transformations and terminations. More broadly, the full data collection (including allocation and water delivery right trade volumes) allows us to identify areas of potential concern and compliance with the Rules. The report's accompanying publication, *Water monitoring report 2020–21: monitoring approach and assumptions* (which is available on our website) provides more detail on our methodology and data used to prepare this report.

171 Bullatale Private Irrigation Trust and Goodnight Private Irrigation Trust did not return requests for information for 2020–21.

Appendix 1: Background to water delivery rights trade

Loddon River, GMW
Source: ACCC staff

Appendix 1: Background to water delivery rights trade

This appendix provides background on water delivery rights (WDRs) trade patterns, including some details on developing and measuring WDRs.

- Section A.1 explains delivery rights.
- Section A.2 discusses the differing approaches to measuring WDRs.
- Section A.3 discusses the changes in WDRs on issue from July 2009 to June 2021.
- Section A.4 assesses WDR termination trends since 2012–13.
- Section A.5 assesses WDR trade trends since 2012–13.
- Section A.6 discusses the future direction of WDRs.

A.1 Water delivery rights

A WDR is a right to have water delivered by an infrastructure operator (IO).[172] In most cases, irrigators hold WDRs against irrigation infrastructure operators (IIOs), which own and operate off-river irrigation networks. It may take the form of a statutory right or be an express or implied contractual agreement that allocates a share of an infrastructure network's delivery capacity to the holder. WDRs help IIOs allocate and manage infrastructure capacity. In essence, a WDR is a right to a share of the IIO's network capacity.

A WDR is separate from an irrigator's entitlement to water under either an irrigation right (a right to receive water held against an IIO) or a statutory water access entitlement (WAE). In this appendix, 'water entitlement' refers to both WAE and irrigation rights.

While WDRs were commonly issued by operators at no cost to existing and prospective irrigators, they generally oblige the irrigator to pay ongoing fixed charges to the operator, even when no water is delivered. These fixed charges share the ongoing cost of operation and maintenance of the infrastructure across all customers who hold WDRs regardless of how much water (if any) the holder gets delivered in a year.[173] The ACCC's IIO typical bill analysis shows that when no water is delivered, fixed fees make up on average around 56% of the average total bill.[174]

Irrigators can reduce WDR holdings by terminating their WDRs. If an IO allows the trade of the type of water delivery or drainage right that the customer wishes to terminate, the Water Charge Rules 2010 (WCR) limit the maximum general termination fee that an IO can levy to 10 times the fixed volumetric charges for the rights of access the customer wishes to terminate. An alternative is to trade the WDR to someone else within the IIO network. WDRs can only be traded within a network and not with another IIO. However, this ability to trade WDRs can provide a much less costly alternative to termination for irrigators. The existence of willing buyers and sellers is not necessarily sufficient to ensure dynamic markets emerge. IIOs have incentive to prevent or restrict WDR trades because they benefit from termination fee payments and/or the issuing of new WDRs.

172 *Water Act 2007*, s 4.

173 For example, see GMW, *Fact sheet – delivery shares*, 2022, p 1, accessed 9 May 2022.

174 The average is based on an analysis in the Water monitoring report 2018–19 which calculated the total typical bills for selected New South Wales irrigation infrastructure operators assuming no water delivered. ACCC, *Water monitoring report 2018–19*, October 2022, pp 62, 63, accessed 30 May 2022.

A.2 Networks apply differing approaches to measuring water delivery rights

WDR arrangements vary considerably across the Murray–Darling Basin (MDB).[175] For example, Victorian delivery shares are supported by Victorian legislation. WDRs issued by IIOs in New South Wales and South Australia are governed by contractual arrangements.[176] Generally, when Basin states began unbundling WDRs from land in the late 2000s, they were issued on a one-to-one ratio with water entitlements held. While many IIOs still allocate WDRs on a one megalitre (ML) basis, other IIOs have adopted differing approaches:[177]

- Renmark Irrigation Trust (RIT) uses the number of hectares multiplied by 9,280 kilolitres (kL) to calculate total annual WDR volume (in kL).[178]
- In Murrumbidgee Irrigation Limited (MI), one WDR equals an annual WDR volume of one ML. However, MI customers must have sufficient WDRs for a 'flow rate' for their irrigation activities. For an assured flow rate of one ML/day, an MI customer requires 150 delivery entitlements (WDRs).[179] MI's WDRs are discussed in more detail in Section A 2.2.
- In Murray Irrigation Limited (MIL), one WDR enables 1.2 ML of water to be delivered.[180]
- In Victoria, Goulburn–Murray Water (GMW) measures total WDR volume for the year by multiplying the total volume of 'delivery share' per day (ML/day) by the number of days in the irrigation season (270 days for gravity irrigation areas and 365 days for pumped districts).[181] In 2018, the Victorian Government reviewed its WDR arrangements in northern Victoria in collaboration with GMW and Lower Murray Water (LMW). This review is discussed in Section A.6.

The ACCC has been collecting data on WDRs on issue by volume since 2009 and trade data by volume since 2012–13. Our analysis discusses changes for each year in the WDR volume on issue and trade by volume. In this way, the analysis is consistent with the approach we take in assessing changes in irrigation right on issue and WAE volumes held as reported by IIOs. It does not consider changes in the number of WDRs on issue.

A.3 Volume of water delivery rights on issue has not changed significantly since 2009

In 2009, IIOs reported WDR volume on issue totalling over 8,000 gigalitres (GL). On 1 July 2020, this total figure had decreased by 2% to 7,853 GL. This net figure reflects terminations, the issuing of new WDRs and that IIOs may have re-issued WDRs that had previously been terminated (see Section A.2.2).

175 While water delivery rights (WDRs) are defined in the *Water Act 2007* (s 4), IIOs use a variety of terms to describe a WDR. In New South Wales, several terms are used to describe WDRs including entitlement, delivery right, delivery entitlement and water delivery entitlement. In Queensland, delivery entitlement is used while Victoria generally uses delivery share. South Australian IIOs use either WDR or water delivery.

176 ACCC, *Water trading rules – Final advice*, March 2010, p 216, accessed 5 May 2022.

177 Before the Water Act and Basin Plan were introduced, rights to have water delivered such as irrigation rights and WDRs were bundled and tied to the land. Ownership of these unbundled water rights could only change when ownership of the property changed. Separating land and water entitlements can be traced back to the Council of Australian Governments (COAG) water reform process which aimed to arrest the widespread natural resource degradation.
ACCC, *Murray–Darling Basin water markets inquiry – Final report*, February 2021, p 59, accessed 5 May 2022.
Specifically, the State Government members of the Council stated, '*The State Government members of the Council, would implement comprehensive systems of water allocations or entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality*'.
Council of Australian Governments, *COAG Communique – Attachment A – Water Resource Policy*, Point 4a, accessed 6 April 2022.

178 RIT, *Water delivery right information*, 2022, p 1, accessed 9 May 2022.

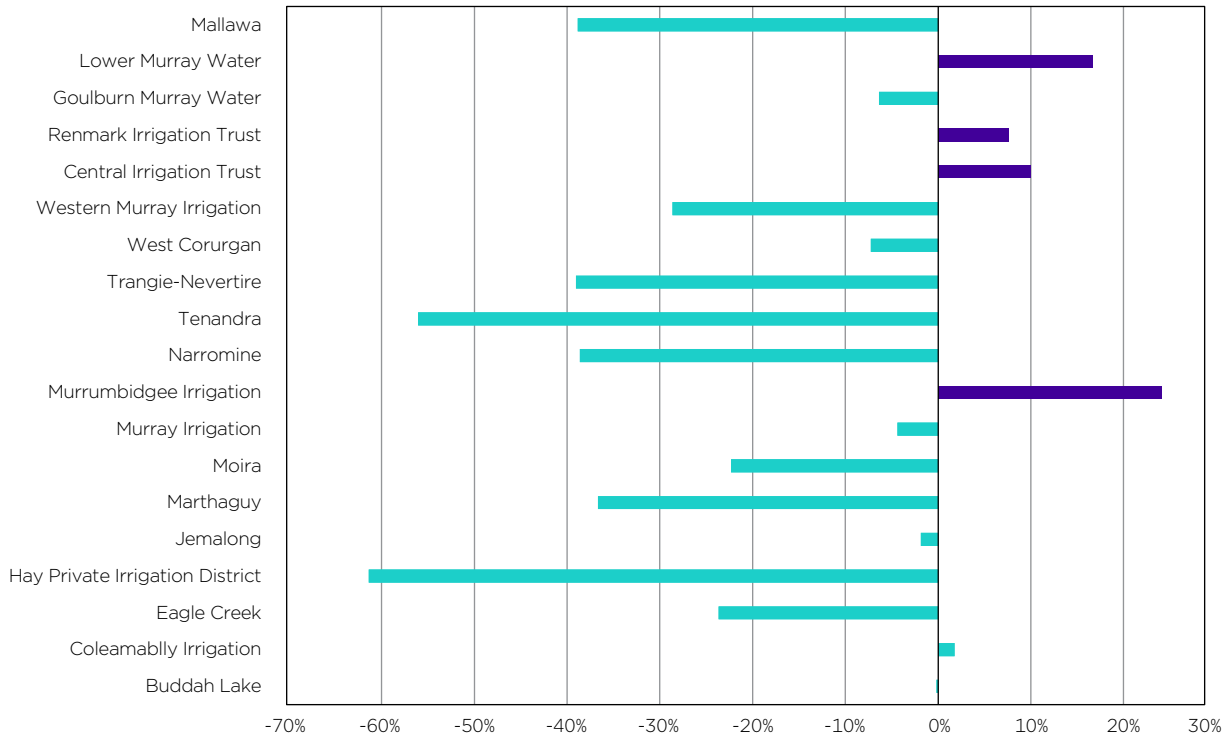
179 MI, *Delivery entitlements: frequently asked questions*, 2022, p 1, accessed 1 August 2022.

180 MIL, *Glossary of terms*, 2020, p 3, accessed 6 June 2022.

181 GMW, *Fact sheet – delivery shares*, 2022, accessed 9 May 2022.

The majority (74%) of IIOs reported a decrease in WDR volume on issue since 2009 (see Chart 1). Only 5 IIOs reported an increase in WDR volume on issue (LMW, RIT, Central Irrigation Trust (CIT), MI, and Coleambally Irrigation Cooperative Limited (Coleambally)). This is discussed below.

Chart 1: Percentage change in water delivery rights volume on issue, July 2009 to 30 June 2021



Source: ACCC from data provided by irrigation infrastructure operators.

A.3.1 Most IIOs that modernised their irrigation networks through the Private Irrigation Infrastructure Operators Program reduced WDR volume on issue between 2009 and 2021

The majority (74%) of IIOs, particularly in New South Wales, reported a decrease in WDR volume on issue between 2009 and 2021. The largest reductions in WDR volume were generally in New South Wales IIOs.

IIOs that participated in the Australian Government's Private Irrigation Infrastructure Operators Program (PIIOP) were able to use funds from this program to substantially modernise or rationalise their irrigation networks.[182] The PIIOP aimed to improve the efficiency and productivity of off-river IO network infrastructure. It included upgrading and modernising irrigation channels and installing pressurised pipelines and total channel control. Thus, IIOs that participated in this program tended to record a decrease in WDR volume on issue after the modernisation and rationalisations, because some irrigators terminated WDRs and water was traded to the Australian Government.[183]

For example, as shown in Chart 1:

- Hay Private Irrigation District (HPID) reported a decrease of 61% in WDR volume on issue since 2009. WDR volume on issue in HPID dropped by 37% following a network modernisation associated with the PIIOP between 2014 and 2016.
- Tenandra Irrigation Scheme (Tenandra) reported a 56% reduction of WDR volume on issue.

182 All projects under the PIIOP are now complete with no further activities funded under this program. Department of Agriculture, Water and the Environment, *Private Irrigation Infrastructure Operators Program in New South Wales*, 2021, accessed 27 April 2022.

183 Exceptions to this include MI and Coleambally which both participated in the PIIOP but had net increases with WDRs on issue.

- Narromine Irrigation Board of Management (Narromine) and Trangie–Nevertire Irrigation Scheme (Trangie–Nevertire) both reported 39% decreases in WDR volume on issue.
- Marthaguy Irrigation Scheme (Marthaguy) WDR volume on issue was down 37%.

As also shown in Chart 1, the WDR volume on issue in GMW irrigation districts decreased by around 6%. This result likely reflects that:

- dairy farming, which has been the predominant type of farming in GMW's irrigation districts, can be outcompeted for water by other irrigated industries. Further, between 2007 and 2017, approximately 539 GL of water entitlements were traded out of GMW's irrigation districts due to horticultural expansion downstream and the Basin Plan[184]
- network reconfiguration through the Connections Program resulted in smaller spur channels being decommissioned.[185]

A.3.2 Five IIOs increased WDR volume on issue between 2009 and 2021

Five IIOs reported an increase in the WDR volume on issue between 2009 and 2021: MI, LMW, RIT, CIT and Coleambally.

Murrumbidgee Irrigation increased its WDR volume on issue by more than any other operator

MI reported net increases in WDR volume on issue 9 times since 2009, with the volume on issue increasing by 24% between 2009 and 2021. Since 2011–12, MI has issued around 242 GL in WDRs, comprising 81% of all the additional WDR volume released in New South Wales since 2011–12 and the largest increase of any operator. This is likely to reflect several factors, including the issue of just under 72 GL of WDRs through network expansions:

- In 2020–21, MI's net WDR volume on issue increased by 5% (or 58 GL).[186] MI advised 2 large lots (around 45%) were taken up by 2 customers. Another 35% related to WDRs issued as part of the Lake View Branch Canal Project,[187] which was jointly funded by MI and MI customers via capital contributions.[188]
- In 2017–18, 50 GL of WDR was issued as part of the Northern Branch Canal Expansion Project.[189]
- In 2017–18, MI also substantially changed its service delivery model and charging structure which may have increased uptake of WDRs by existing customers. MI's previous pricing structure included a standard outlet charge, with tiered charges applying a declining block tariff based on the size of the delivery entitlement and pricing groups based on location within, and type of, irrigation network. MI's 2017–18 pricing schedule replaced these charges with a single flat rate for holding delivery entitlements. It also simplified some pricing groups (removing the small and large area supply groups) and realigned the outlet charge with the actual cost of different sized outlets. As noted in the *Water monitoring report 2018–19*, we considered these changes improved the likelihood that MI's charges would reflect the underlying differences in the costs of service provision to different users and, therefore, reduce the potential for large users to benefit unfairly over small users.

184 Tim Cummins and Associates, Frontier Economics, *Social and economic impacts of the Basin Plan in Victoria*, February 2017, p 10, accessed 1 August 2022.

185 The Victorian Government reported that the Connections Project achieved 429 GL of water savings by 2020 by decommissioning spur channels, upgrading backbone channels with plastic lining and clay remodelling, automating meters to provide significantly better accuracy, and automating the operation of irrigation channels. The Victorian Government reports that with the project's 429 GL water savings target reached in 2020, average irrigation water delivery efficiency is estimated to increase from about 70% to at least 85%. More information available at:
GMW, *Connections Project*, accessed 1 August 2022.

186 MI advised that of the 61 GL of WDRs issued in 2020–21, around 35% were related to the Lake View Branch Canal Expansion, 45% were related to 2 large transactions and the remainder were multiple smaller transactions.

187 The Lake View Branch Canal Expansion Project involved upgrading regulators, bridges and escapes which MI claimed would improve water supply reliability and increase flow rates.
MI, Project fact sheet – Lake View Branch Canal Expansions Project, April 2020, accessed 26 May 2022.

188 The ACCC has now released guidance to IOs about capital contributions on schedules of charges.
ACCC, *Guidance for infrastructure operators about capital contributions on a schedule of charges*, August 2022.

189 MI, *Building a new future – 2017 company review*, 2017, p 10, accessed 27 May 2022.

South Australian IIOs increased WDR volume on issue between 2009 and 2021

Both South Australian IIOs (CIT and RIT) reported an increase in the volume of WDRs on issue between 2009 and 2021:

- WDR volume held against CIT increased by 10% since 2009. The most significant increase occurred in 2011–12, when the WDR volume managed by CIT expanded by 11%, reflecting existing smaller irrigation networks joining CIT (including Golden Heights and Sunlands Irrigation trusts). Land returning to irrigation following the Millennium Drought also contributed to CIT's increased aggregate WDRs on issue. Some WDRs that were terminated under the Small Block Irrigators Exit Grant (SBIEG) Package were later re-issued.[190] Changes in crop type on individual properties may have also led to some irrigators acquiring additional WDRs.
- WDR volume on issue for RIT increased by 8% since 2009. This result largely related to the combined impact of the SBIEG Package and the subsequent South Australian River Murray Sustainability Irrigation Industry Improvement Program, developed by RIT with the South Australian Government. This program returned 3.5 GL of WAE to the Australian Government while allowing RIT to modernise its infrastructure and open up greenfield land within the boundaries of its existing district for irrigation.[191]

WDR volume on issue in LMW also increased

The volume of WDRs on issue in LMW increased by 17% between 2009 and 2021. LMW reported 7 increases in WDRs on issue since 2009.

The largest increase (12%) occurred in 2019–20 and resulted from the Sunraysia Modernisation Project 2 (SMP2) which created surplus system capacity, higher flow rates and access to irrigation water for new irrigation enterprises.[192] In contrast to GMW (where dairying is predominant), most of LMW's customers grow horticulture crops and the irrigable area in LMW's area has continued to expand, including during the Millennium Drought. This result could be because horticulture sometimes outcompetes other industries, including dairy for the available irrigation water. As a result, horticulture plantings, including nuts, have continued to increase after the Basin Plan was introduced.[193]

A.4 Termination of water delivery rights

If a person who wants to reduce their WDRs cannot find a buyer or cannot or does not want to sell their WDRs, they can terminate their WDRs. If an IO allows the trade of the type of water delivery or drainage right that the customer wishes to terminate, the WCR limit the maximum general termination fee that an infrastructure operator can levy to 10 times the fixed volumetric charges for the rights of access the customer wishes to terminate. This is levied per unit of WDR for a full financial year (if the IIO allows the trade of WDRs).[194] The ACCC has published guidance on when an IIO can levy an additional termination fee.[195]

In some circumstances, an IIO may choose not to levy a termination fee (or choose to levy a discounted termination fee). Many irrigators have taken advantage of terminating or surrendering either all or part of their WDRs since 2009 without fees. In the early years following the introduction of the Water Act and the making of the Basin Plan, most terminations were coordinated and were generally associated

190 On 20 September 2008, the Australian Government launched its Small Block Irrigators Exit Grant (SBIEG) Package. This package assisted small block irrigators to exit the irrigation industry in exchange for their water entitlement.

191 The $240 million Irrigation Industry Improvement Program component of the South Australian River Murray Sustainability Program (SARMS) was a competitive grants program created by industry to support the restoration of a healthy Murray–Darling Basin environment. The now-closed program recovered 40 GL of water access entitlements from participating irrigators.
South Australian Government, *Irrigation Industry Improvement Program*, 2017, accessed 1 August 2022.

192 LMW, *Annual report 2019–20*, 2020, p 16, accessed 26 May 2022.

193 Tim Cummins and Associates, Frontier Economics, *Social and economic impacts of the Basin Plan in Victoria*, February 2017, pp 63–65, accessed 1 August 2022.

194 If an IO does not allow the trade of the type of water delivery or drainage right that the customer wishes to terminate, the WCR limit the termination fee to the amount (not 10 times the amount) of the fixed volumetric charges. This fee is levied per unit of water delivery or drainage right for a full financial year.

195 ACCC, *Guidance for infrastructure operators about additional termination fees*, August 2022.

with the Australian Government's PIIOP in New South Wales and the Victorian Government and GMW's Connections Project. Terminations associated with these programs typically waived fees to incentivise irrigators to participate in coordinated rationalisation efforts.

In 2018, the Victorian Delivery Share Review identified a surplus of WDRs in the Goulburn–Murray Irrigation District (GMID), averaging over 3,000 GL of excess annual delivery allowance (around 71% of GMW's WDRs on issue). The review recommended GMW develop clear guidelines for determining if termination fees should be discounted (for example, where discounts or waiving termination fees would help to progress infrastructure rationalisation leading to cost savings). It found many irrigators opted not to terminate and pay termination fees when selling water entitlements, leaving them liable for the ongoing fixed charges.

A.5 Trade in water delivery right holdings

A.5.1 Irrigators are using trade in preference to termination to alter their WDR holdings

IIOs facilitate and approve trade of water delivery rights within their networks. Under rules 12.28 and 12.29 of the Basin Plan water trading rules, an IIO must not unreasonably restrict the trade of a water delivery right. Irrigators may be able to trade their WDRs to reduce their WDR holdings and associated liability for fixed charges rather than pay a termination fee.

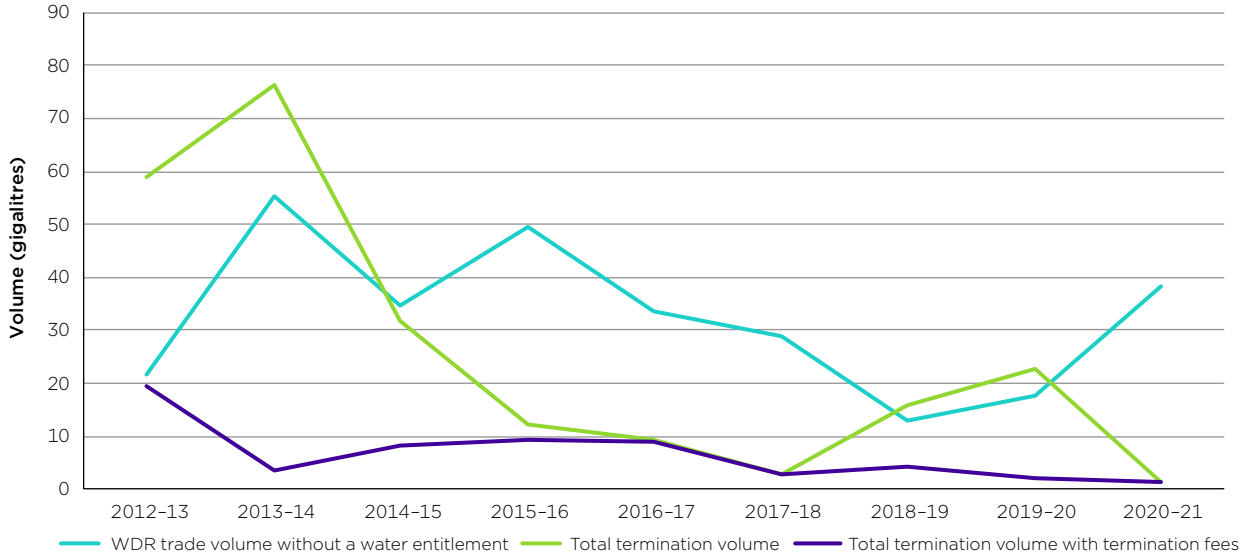
It may be difficult to trade a WDR in some circumstances, for example, due to low demand or network engineering in the relevant part of the network. However, Chart 2 shows irrigators often trade their WDRs, rather than pay a termination fee. Since 2012–13:

- total WDR trade volume without water entitlement was around 293 GL
- irrigators terminated a total of 232 GL of WDRs over the same period
- of the 232 GL, only 60 GL of terminations attracted a termination fee.

Based on figures reported since 2012–13, irrigators with excess WDRs and no access to termination without fees have used trade to reduce holdings or exit the industry. Irrigators appear to prefer to trade when considering options for excess WDRs. This result may indicate WDR markets are working efficiently to reallocate surplus capacity – at least in some markets (see Chart 4).

Unsurprisingly, there has been no WDR trade in GMW and very little WDR trade in LMW over the past 3 years. The Victorian Government's Delivery Share Review found around 71% of GMW's WDRs were surplus, making trade unviable.

Chart 2: Water delivery right trade volume without a water entitlement compared with terminated volume (with and without termination fees)



Source: ACCC from data provided by irrigation infrastructure operators.

Note: The ACCC commenced collecting data on water delivery right trade in 2013–14.
Surrendered or cancelled volumes of water delivery rights are not included in termination volumes.

A.5.2 WDR trade since 2012–13

From 2012–13 to 2020–21, around 571 GL of WDRs were traded in monitored IIOs.[196] This represented 7% of all WDRs on issue on 1 July 2012. In comparison, the total volume of irrigation right trade over the same period was 35% of all irrigation rights on issue on 1 July 2012. Compared with irrigation right trade, the levels of trade for WDRs since 2012–13 have not been significant. However, this result likely reflects that the capacity to trade WDRs is more limited in geographic scope than for water entitlements, and that the need to trade was reduced when termination without fees was available.

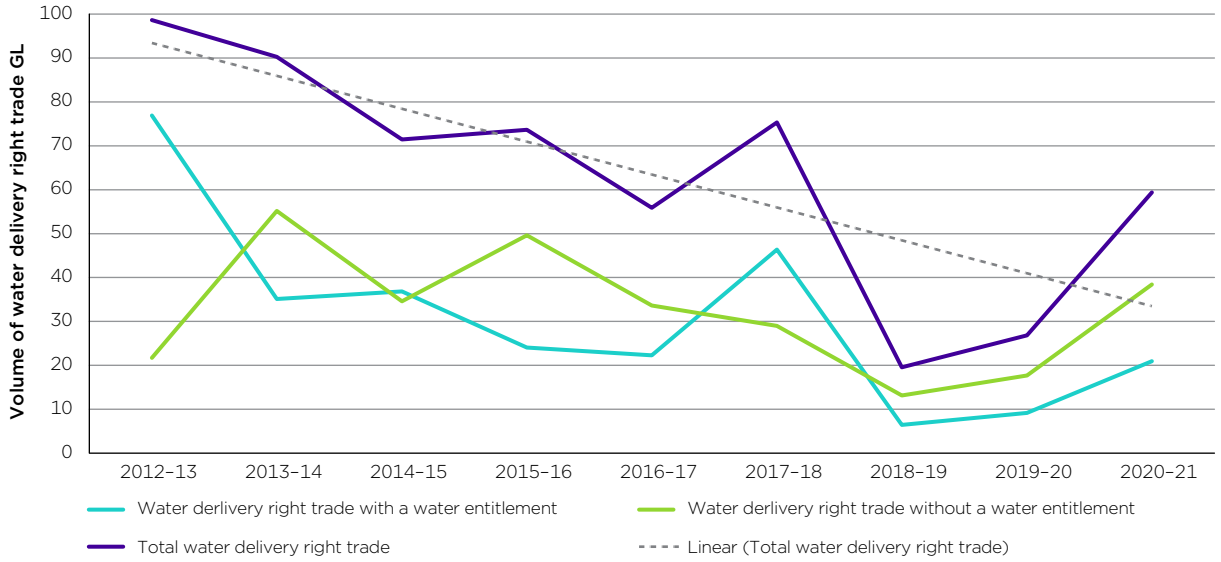
Chart 3 shows the overall volume of WDR trade fell consistently between 2012–13 (when 99 GL of WDR was traded) and 2018–19 when only 20 GL of WDR was traded. The total trade of WDR from 2012–13 to 2017–18 was large when compared with later years with an average of 78 GL. However, total WDR trade dropped by 74% in 2018–19 to 20 GL. The average volume traded after 2017–18 was around 35 GL, 55% less than for the period from 2012–13 to 2017–18. More recently, 2019–20 and 2020–21 saw substantial rises in the volume of WDRs traded with increases of 37% and 121% respectively.

The increase in WDR trade over the past 2 years was (as outlined in Section 2.2.3) largely related to increased property sales, higher volumes of water delivered with the drought breaking (resulting in some irrigators needing to adjust their WDR holdings to increase capacity) and some irrigators wanting to retire and exit the industry.

The observed decline in WDR trade between 2012–13 and 2020–2021 may be attributed to numerous IIOs finalising modernisation and rationalisation programs, the decline of pent-up demand from those irrigators who wanted to exit irrigation and a more settled irrigation market. However, the recent increases in WDR trade, the older demographic of irrigators in the industry and increased corporate investment may see changes to the previous trend.

196 The ACCC began collecting data on WDR trade volumes in 2012–13.

Chart 3: Total volume of water delivery right trade, total, with water entitlement and without water entitlement, 2012–13 to 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

The volume of terminations also increased in 2018–19 and 2019–20, which partly reflects the terminations associated with GMW and the Connections Program.

A.5.3 WDR usually traded without a water entitlement

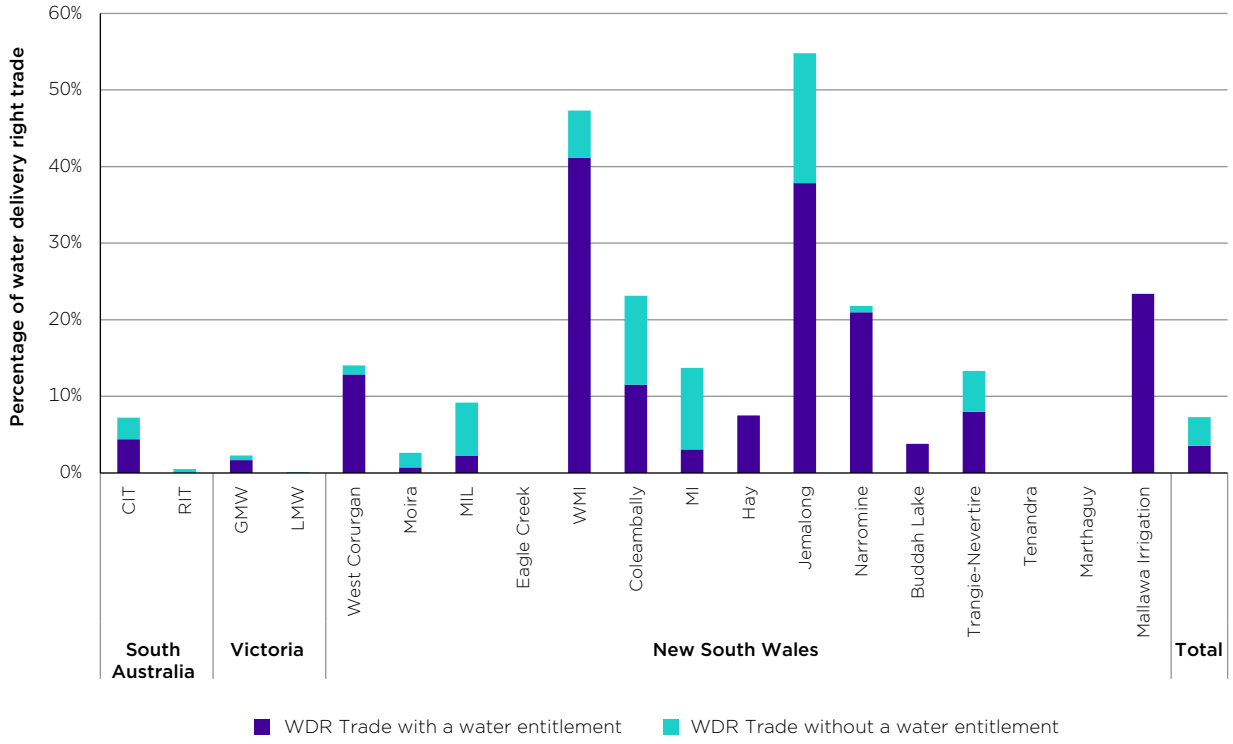
Under rule 12.15 of the Basin Plan, a person may trade a water access right or an irrigation right free of any condition that would require the person to hold, buy, sell, obtain, accept, terminate, or vary the volume or unit share of, a WDR. WDR trade since 2012–13 has been without a water entitlement around half the time (51%).

Chart 4 also shows irrigators in Jemalong Irrigation Limited (Jemalong), Western Murray Irrigation, Narromine Irrigation Board of Management (Narromine), Trangie–Nevertire, West Corurgan Private Irrigation and Mallawa Irrigation traded a relatively large percentage of WDRs on issue. However, in most cases, the ACCC understands these trades reflected land ownership changes and/or family transfers.

For example, Jemalong noted considerable sales in irrigation properties over the past 5 years (when 81% of its WDR trade occurred). A sizeable portion of these sales related to irrigators wanting to exit the industry and retire. Jemalong advised it has an older demographic among its irrigation community and a number want to exit the industry. Other reasons included the current higher property and water prices and interest from corporate investors. Narromine noted the prolonged drought and no allocations subdued WDR trade.

Chart 4 also reflects that IIO arrangements vary significantly, including the extent of water recovery, crops grown and maturity of WDR markets. As discussed in Section A.5.3, most WDR trade measured in total volume occurs in larger IIOs. Further WDR trades in smaller IIOs may be primarily explained by property transfers rather than a reallocation of the IIO's network capacity.

Chart 4: Water delivery right trade with and without water entitlement as a percentage of the total water delivery right held by customers 1 July 2012, 2012–13 to 2020–21



Source: ACCC from data provided by irrigation infrastructure operators.

Note: The ACCC commenced collecting data on water delivery right trade in 2012–13.

A.5.4 The larger networks dominate WDR trade when assessed in gigalitres

Most WDR trade (measured in total GLs traded from 2012–13 to 2020–21) occurred in larger networks including MI with 147 GL, GMW with 102 GL, MIL with 100 GL, and Coleambally with 99 GL. These results likely reflect that these IIOs have larger irrigation networks and more WDRs on issue, making it easier to establish a mature WDR market. It is also consistent with the ACCC's finding in the MDB inquiry that IIOs with more trading activity may have invested in technology to reduce the administrative burden of processing trades manually and/or encourage trade:[197]

- **MI**: 147 GL of WDR was traded during this period. Most of MI's WDR trade occurred between 2012–13 and 2017–18 with an average of 22 GL compared with 4 GL in later years. Trade increased from 3 GL in 2019–20 to 8 GL in 2020–21. Around 78% of MI's WDR trade was without an irrigation right. MI's extensive consultation with irrigators on WDRs over this later period increased irrigators' understanding of WDRs. As a result, irrigators requested setting up their irrigation activities with the required flow rate share and obtaining extra WDRs, either through new issues or via trade. Some of MI's WDR trade could also be associated with changes to its charging structure and service delivery model (see Section A.2.2).
- **MIL**: 100 GL of WDR was traded during this period. MIL could not provide specific reasons for why most of its WDR trade occurred without an irrigation right (76%). MIL noted the 13 GL of WDR traded in 2020–21 without an irrigation right mostly related to business transfers.
- **GMW**: 102 GL of WDR was traded during this period. Most trade (73%) was with a water access entitlement, indicating the trade could be part of a property transfer.
- **Coleambally**: 99 GL of WDR was traded during this period. WDR trade was split evenly between with and without an irrigation right. Coleambally advised that WDR trade in 2020–21 without an irrigation right was due to the WDR holders choosing to offer for sale their irrigation rights and WDRs in separate parcels.

197 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, p 303, February 2021.

Some smaller IIOs may not have enough irrigators who want to trade WDRs to support a dynamic market. In particular:

- Eagle Creek Pumping Syndicate (Eagle Creek) and Tenandra reported zero WDR trade between 2012–13 and 2020–21. Both IIOs are relatively small. At June 2009, both had less than 20 GL of WDRs on issue and had a 'settled' membership. Neither IIO expects WDR trades to occur within their networks independent of land sales. Eagle Creek also noted WDRs either stayed with the new owners or were terminated.
- RIT reported only 203 ML of WDRs in 2012–13 and nothing over the period to 2020–21. RIT advised the lack of WDR trade was because its pipeline delivery system has additional unused capacity to accommodate any extra demand.

A.6 Future directions of water delivery rights

As discussed above, there has been significant trade of water out of GMW's irrigation districts, which were traditionally associated with dairy farming (alongside some horticulture). This trade could lead to significant changes in land use and socioeconomic impacts in the region. It contrasts with LMW, where horticulture plantings increased even in drought.

Changes in water availability and land use mean the regulatory arrangements related to WDRs must be appropriate to support the development of water markets, the efficient allocation of resources (including network capacity and water entitlement), and the needs of irrigation communities. Irrigators may rely more on WDR markets in future to efficiently reallocate network capacity as termination fee-free opportunities decline. It is also possible on-river WDRs could be formalised, and a market could develop for these rights.

A.6.1 Victorian Government review of WDR arrangements

In 2018, the Victorian Government reviewed its WDR arrangements in northern Victoria in collaboration with GMW and LMW.[198] The aim was to identify opportunities to strengthen these arrangements and better support irrigation communities as they adjust to rapid, continuing changes in land and water use.[199]

For the GMW irrigation districts, the review recommended 6 outcomes and 21 actions, including GMW facilitating the market in delivery shares to support asset rationalisation and imposing an embargo on the issue of WDRs.[200] For the Sunraysia and LMW irrigation districts, the review set out for 4 outcomes for WDRs. These were: facilitating markets and trade in WDRs; improving tools for managing system operation and deliverability constraints; improving information and communication on WDRs; and strengthening and clarifying overarching governance and pricing principles.[201]

A.6.2 ACCC's Murray–Darling Basin water markets inquiry

This appendix has discussed the WDRs held against IIOs which own and operate off-river irrigation networks.

However, the ACCC's MDB water markets inquiry report[202] considered water markets in the MDB more broadly. Stakeholders submitted concerns about WDRs within IIOs, including the continued expansion and issuing of additional delivery rights by IIOs, and the transparency of policies, rule changes and trade information about WDRs. However, the ACCC could not consider these issues in detail.

198 The delivery share review was a commitment to irrigators that was detailed in action 4.3 of Victoria's *Water for Victoria* initiative. *Water for Victoria* is the Victorian Government's response to the impacts of climate change on current and future water resources.
Victorian Government, *Water for Victoria – Water Plan*, 2016, p 8, accessed 9 May 2022.

199 Victorian Government, *Delivery share review – Outcomes and actions snapshot*, 2022, p 4, accessed 14 September 2022.

200 Victorian Government, *Delivery share review – Outcomes and actions for the Goulburn–Murray irrigation districts Irrigation Districts*, 2018, pp 4, 8, accessed 9 May 2022

201 Victorian Government, *Delivery share review – Outcomes and actions for the Sunraysia Irrigation Districts*, 2018, pp 1, 5, accessed 9 May 2022.

202 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, February 2021.

Chapter 13 of the inquiry report considered 'market architecture', which is the laws, rules, policies and arrangements that make markets for tradeable water rights, including rules about sharing, storing and delivering water.[203] This analysis included the impacts of trade in water deliveries managed 'on-river' by river operators. It noted market architecture must ensure limited water resources, storage and delivery capacity, and trade opportunity are allocated in ways that achieve the best, most efficient outcomes for water users and the environment. However, there are signs that this does not always occur.[204] The report stated rules for trade and delivery should manage water transfers with regard for all relevant users.[205] It suggested revising Basin Plan water trading rule 12.48 to require river operators to report prices for all transactions of tradeable water rights, including irrigation rights and WDRs, and not just water access rights.[206]

Chapter 16 of the inquiry report considered ways to improve the transparency and design of market architecture. It recommended Basin states and the Murray–Darling Basin Authority investigate developing a regime of property rights for the delivery of water through on-river infrastructure that are unbundled and operate separately from water access rights (entitlements). These property rights should be tradeable and capped at a level that reflects the sustainable delivery capacity of on-river delivery infrastructure.

The ACCC also suggested investigating the feasibility and possible avenues to implementation for a regime of separate property rights for the on-river delivery of water in the southern Basin. This regime would involve further unbundling of existing water rights, given the right to have water delivered on-river is currently still bundled in with water access entitlements. This approach would essentially take the form of a 'cap and trade' regime for delivery capacity, similar to the regime of water delivery rights for off-river IIO networks.[207]

203 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, p 443, February 2021.
204 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, p 21, February 2021.
205 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, p 407, February 2021.
206 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, pp 271, 272, February 2021 (recommendation 3).
207 ACCC, *Murray–Darling Basin water markets inquiry – Final report*, p 538, February 2021.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Water Abstraction Charge Cost Framework

The objective of the Water Abstraction Charge Cost Framework is to identify all costs used in the method to determine the Water Abstraction Charge. These fall into two categories:

1. costs that are eligible for cost recovery under the Water Charge Rules, 1, 2 and
2. other costs to reconcile the Water Abstraction Charge. [3]

Costs that are eligible for cost recovery under the Water Charge Rules

The allocation of costs used to determine the Water Abstraction Charge that are consistent with the Basin Water charging objectives and principles and the National Water Initiative pricing principles are:

1. Water planning and management activities:[4]
    a. Development of water plans (resource, environmental and property),
    b. Operationalisation and implementation of plans,
    c. Monitoring and evaluation of plans,
    d. Review of water plans,
    e. Water use efficiency programs,
    f. Construction of works (not significant water supply infrastructure)
    g. Environmental works
    h. Monitoring, evaluation and resource assessment
    i. Monitoring and evaluation of water dependant eco-systems,
    j. Water administration and regulation
    k. Information management and reporting,
    l. Water industry regulation,
    m. Water markets,
2. Benchmarking and efficiency reviews, [5]
3. Environmental externalities,[6] and
4. Capital costs:
    a. The operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, and
    b. Provision for the cost of asset consumption, and
    c. Provision for the cost of capital (calculated using a weighted average cost of capital).[7]

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[1] Australian Government. (2007). *Water Management Act, Schedule 2, Part 1* https://www.legislation.gov.au/Details/C2017C00151
[2] Australian Government. (2010) *National Water Initiative Water Pricing Principles.* https://www.dcceew.gov.au/water/policy/policy/nwi/pricing-principles
[3] Independent Competition and Regulatory Commission. (2003). Final Report: Water Abstraction Charge. https://www.icrc.act.gov.au/projects/completed-projects/water-and-sewerage/water-abstraction-charge
[4] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 4.* https://www.legislation.gov.au/Details/C2017C00151
[5] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 6.* https://www.legislation.gov.au/Details/C2017C00151
[6] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 5.* https://www.legislation.gov.au/Details/C2017C00151
[7] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 5.* https://www.legislation.gov.au/Details/C2017C00151

Water planning and management charges are to exclude activities undertaken for the business of Government such as:

a. development of inter-governmental agreements,[8]
b. broad strategy/policy development,[9] or
c. development and/or refinement of overarching statutory instruments,[10] or
d. Ministerial and Parliamentary services.[11]

To ensure costs are not over-recovered, costs that are recovered through other charges should be excluded, including:

a. Water or land rates,
b. Costs passed on to developers, and
c. Monies received from the Commonwealth under National Partnership Agreements

Other costs to reconcile the Water Abstraction Charge

The Water Abstraction Charge was based on cost recovery. To reconcile monies received under the Water Abstraction Charge with actual costs incurred, all the costs that were used to determine the Water Abstraction Charge should be compared with their actual costs.

The costs used to determine the Water Abstraction Charge were the costs listed under the Basin Water charging objectives and principles and the National Water Initiative Pricing Principles, and the additional costs of:

1. Scarcity value,[12] and
2. A 30 cent per kilolitre charge, indexed for inflation.[13]

The Scarcity Value and the 30 cent per kilolitre charge are not included in the Basin Water charging objectives and principles, or the National Water Initiative Pricing Principles.

[8] Australian Government. (2010) *National Water Initiative Water Pricing Principles.* https://www.dcceew.gov.au/water/policy/policy/nwi/pricing-principles
[9] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 4.* https://www.legislation.gov.au/Details/C2017C00151
[10] Australian Government. (2010) *National Water Initiative Water Pricing Principles.* https://www.dcceew.gov.au/water/policy/policy/nwi/pricing-principles
[11] Australian Government. (2007). *Water Management Act, Schedule 2, Clause 4.* https://www.legislation.gov.au/Details/C2017C00151
[12] Independent Competition and Regulatory Commission. (2003). Final Report: Water Abstraction Charge. https://www.icrc.act.gov.au/projects/completed-projects/water-and-sewerage/water-abstraction-charge
[13] Stanhope. (2006). *Estimates 2006: Questions on Notice: 60 - Water Abstraction Charge.* *https://www.parliament.act.gov.au/__data/assets/pdf_file/0008/382427/Stanhope_Treasurer_2006.pdf*